BD3341 Structural Methacrylate Adhesive

Technical Product Data: Results may differ based upon statistical variations depending upon mixing methods and equipment, application methods, test methods, actual site conditions and curing conditions.

Properties	Component A: BD3341 Resin	Component B: BD3341 Activator
Chemical Base	Toughened 2-component acrylic	
Color	Natural	Blue
Color (mixed)	Straw	Blue/Green
Viscosity, Approximate (Brookfield @ 10 RPM)	320,000 cps	150,000 cps
Cure Mechanism	Free Radical Polymerization	
Density (Typical)	8.0 lbs/gallon	10.5 lbs/gallon
Density Mixed	8.3 lbs/gallon	
Mixing Ratio (Typical by volume)	10 parts A to 1 part B	
Mixing Ration (Typical by weight)	7.5 parts A to 1 part B	
VOC, Approximate (Method 40CFR, Part 63, Subpart PPPP, App A)	18 grams/liter	
Consistency (mixed)	Non-sag Paste	
Application Temperature, approximate	50°F to 90°F (10°C to 32°C)	
Open time (Typical with a static mixer)75°F (24°C) 95°F (35°C)	40 - 50 minutes 30 - 40 minutes	
Gel time (Typical at 75°F (24°C))	50 minutes	
Peak Exotherm (Typical)	70 minutes /195°F (90°C)	
Shore D-Hardness (Approximate)	65	
Tensile Strength, (Approximate, ASTM D412)	2,700 psi	
Elongation at Break, (Approximate, ASTM D412)	100%	
Elastic Modulus, (Approximate, ASTM D412)	15,500 psi	
Service Temperature Range (Approximate)	-20°F to 180°F (-29°C to 82°C)	
Shelf life (Stored at or below 75°F (24°C) and no direct sunlight)	12 months (Drums, Pails, Cartridges)	

Description

BD3341 is a flexible, two component acrylic adhesive with incorporated spacer shim (0.030 inch) to maintain a uniform bond line thickness. Like other BD3000 acrylic adhesives, BD3341 is designed to efficiently transfer high loads and evenly distribute stresses. These characteristics distinguish the BD3341 product from other acrylic adhesives that claim high strength and elongation. BD3341 bonds many materials without surface separation or priming and cures rapidly at room temperature.

Product Description

- High Strength
- Fast Setting and curing
- High Elongation
- High Ductility
- Excellent Damping Properties
- Spacers to control bond line thickness
- Extremely High Impact Strength
- Excellent adhesive to a wide variety of substrates with little to no surface preparation

Areas of Application

BD3341 is a 10:1 two-part structural adhesive designed to substitute or complement welding, riveting, clinching and other mechanical fastening techniques used in the manufacture of transportation vehicles and assembly components. BD3341 is suitable for bonding sidewall panels, floors and parts made of aluminum, stainless steel, galvanized steel, fiberglass reinforced polymers, acrylic panels, gel coated panels, and many other plastics. This product is suitable for use by experienced professionals only. Test with actual substrates and conditions must be performed to ensure proper adhesion and material compatibility.

Cure Mechanism
Two-component mix, based upon free radical polymerization.

Chemical Resistance
Cured BD3341 has excellent resistance to alcohols, glycols, dilute acids and bases, water, and crude oil. Cured product is not resistant to gasoline, kerosene, and low molecular weight aldehydes and ketones, such as acetone. Actual chemical resistance of bonded components must be tested. The above information is offered for general guidance only. Advice on specific applications will be given on request. Contact the Technical Services Department for any unanswered questions.

Adhesion Results
The following results are offered for general guidance only. Due to the variations among substrates and test conditions, preliminary test must be completed before use of product.

Adhesion Table 1

Material	**Failure Type**	Value
Aluminum 5052	Coh	2,700 +
CR Steel	Coh	2,600 +
Stainless Steel	Coh	2,700 +
Galvanized Steel	Coh	2,400 +
Fiberglass	Sub	1,000 +
Gel coat Fiberglass	Sub	1,000 +
ABS	Sub	800 +
PVC	Sub	600 +

Table 1: Lap Shear as to D1002

Conditions: 72- hour cure at 75°F (24°C). Tested at 75°F (24°C). Substrates as received or wiped with IPA wipe.

Breaktype: A = adhesion failure.
Coh = Cohesion failure
Sub = Substrate failure

Method of Application
Substrate preparation
Surfaces should be clean and dry. Remove heavy oils an dirt with suitable solvent that will not harm the substrate. A 2 to 1 solution of isopropyl alcohol to water solution is recommended, but substrate compatibility must first be tested. Heavily contaminated areas must be more rigorously cleaned before bonding.

Mixing from Cartridges

We recommend a high-quality pneumatic dispenser should be used. Avoid manual dispensers as they can create non-uniform dispensing due to the pulsing nature of the operator. The preferred dispenser is a Sulzer MixPac DP400/10 with a dispensing cradle. The recommended static mixers are the Sulzer MixPac MFX 10-18; MFX 10-24, MFQX 10-24, or the MGQ 10-19 for high flow applications.

Insert the cartridge into the proper dispenser, and unscrew the camlock nut from the nose of the dispenser. Attach the airline to the dispenser, and adjust the air pressure to the lowest possible pressure using the air regulator on the dispenser. Dispense a small amount of product into a paper cup, until you see both the A-side and the B-side protrude from the nose of the cartridge into the paper cup. Only a few CC's of the product should be dispensed to balance the pistons. Insert the manufacturer recommended static mix tip and secure the tip with the camlock nut. Slowly increase the air pressure, and dispense about the length of the static mix tip into the paper cup. Mix the contents of the cup with a wooden mix stick and toss away into the trash. Now begin the application. using the dispenser tool air pressure to achieve the desired flow rate. If application stops for a period of time exceeding ½ of the gel time, the static mix tip must be removed and a new one installed using the steps outlined as above.

NOTE: cooler temperatures will afford a longer working time, whereas warmer temperatures will afford a shorter working time. It is best for storage of partially used cartridges to retract the air pressure on the dispensing tool, remove the cartridge from the dispensing tool, remove the static mix tip. And replace the static mix tip with the nose plug that was on the cartridge. Store in an upright location.

From Meter Mix/Bulk Dispensing Units

For advice on setting up meter mix equipment, please see manufacturer's recommended products and set up procedures. Any questions can be directed toward our Technical Services Department.

Important Note:
Large quantities of BD3341 will generate significant heat during the curing process. Therefore, limit the bond-line thickness to approximately .125 inches. Large masses, greater than 50 grams may boil or blister, therefore purge volumes should be limited to amounts less than 50 grams. Exposure of materials, cartridges greater than 95°F (35°C) will rapidly decrease shelf life.
For additional information or support, please contact our Technical Services Department.

Removal

Excess material can be best removed before curing with a dry wipe. Uncured material may be removed from tools and equipment with an eco-friendly product, such as a citrus cleaner. Strictly follow the solvent manufacturer's warnings and instructions for use. Also, if surfaces that were cleaned are to be re-bonded, they must be thoroughly wiped with a 2 to 1 isopropyl alcohol and water solution. Adhesion testing is always recommended in these cases. Cured material can only be removed mechanically. A solvent wipe should follow mechanical removal if re-bonding is to be done.

Overpainting

If over painting is desired, the paint and the paint process compatibility must be tested before use. BD3341 should not be exposed to paint baking temperatures until it has achieved its full cure. It should be understood that the hardness and film thickness of the paint may impair the elasticity of the adhesive and lead to cracking of the paint film over time.

Limitations
BD3341 will not bond polyolefins or other low energy surfaces, including such products as polyethylene and polypropylene, Teflon, polytetrafluoro-ethylene, fluorine containing polymers, polyacetals, or nylon. Adhesion to, and compatibility with composites with these materials should be tested before using. Cure may be accelerated with heat, but avoid temperatures over 110°F (43°C). Product will cure at temperatures well below 40°F (4°C), but will do so very slowly.

BD3341 Resin (Component A)
DANGER: FLAMMABLE, IRRITANT, SENSITIZER. Contains Methyl Methacrylate (CAS 80-62-6), Methacrylic Acid (79-41-4). **Keep away from heat, sparks, sunlight, electrical equipment, flame or other sources of ignition. VAPORS MAY IGNITE AND EXPLODE. VAPORS ARE HEAVY THAN AIR. DO NOT SMOKE.** Use only in well ventilated areas. Open doors and windows during use. Eye/skin/respiratory irritant. May cause skin sensitization after contact. May be harmful if swallowed. Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain, liver,

kidney and nervous system damage. Inhalation can result in headaches and dizziness. **Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.**

BD3341 Activator (Component B)
WARNING: COMBUSTIBLE, IRRITANT, SENSITIZER. Contains Benzoyl Peroxide (CAS 94-36-0). Keep away from heat, sparks, electrical equipment, and open flame. **DO NOT SMOKE.** Use only in well ventilated areas. Irritating to eyes, skin, and respiratory irritation. May cause skin sensitization by contact. Harmful if swallowed. **Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal**

HMIS

	Comp A	Comp B
Health	2	2
Flammability	3	2
Reactivity	0	1
Personal Protection	C	C

Component A and Component B

First Aid Measures
Eyes – Hold eyelids apart an flush thoroughly with water for 15 minutes.
Skin – Remove contaminated clothing. Wash skin thoroughly with soap and water for 15 minutes.
Inhalation – Remove to fresh air.
Ingestion – Do not induce vomiting. Dilute with water. Contact physician.
In all cases contact a physician immediately if symptoms persist.

In case of emergency, call:

CHEMTREC: 1-800-424-9300

Use explosion proof electrical equipment (ventilating, lighting and material handling). Use non-sparking tools. Take precautionary measures to prevent against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material.

For further information and advice regarding transportation, handling, storage and disposal of chemical products, users should refer to the SDS (Safety Data Sheet) containing the physical, ecological, toxicological, and other safety related information. It is highly recommended to read the actual Safety Data Sheet before using the product.

KEEP OUT OF REACH OF CHILDREN
NOT FOR INTERNAL CONSUMPTION
FOR INDUSTRIAL USE ONLY
KEEP CONTAINER TIGHTLY SEALED

Packaging Information:

Cartridges	490ML
Pail Component A	4.5 gallon
Pail Component B	4.5 gallon
Drum Component A	45 gallon

5 gallon straight sided pail type is used

Storage
Keep stored in original containers between 50°F (10°C) and 75°F (24°C) and avoid exposure to direct sunlight. Prolonged exposure of product to temperatures above 90°F (32°C) should be avoided. Exposure to temperatures above 95°F (35°C) will rapidly decrease shelf life. Naturally, the cooler the product is stored in, the longer the shelf life. Refrigeration of components will extend the shelf life. **PRODUCTS SHOULD NOT BE FROZEN!!** No formal recommendations can be made since storage conditions at customer locations may fluctuate and are beyond the manufacturer's control. Before any product is used, customers must acclimate the product to normal room temperature (75°F (24°C)) for several days before use for optimal properties.

Value Basis
All technical data stated on this Technical Data Sheet are based upon the results of laboratory tests only. Actual measured data in the field may vary due to the site-specific conditions which are not known to the manufactures of this product and are beyond our control.

Limited Material Warranty
Manufacturer warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Technical Data Sheet if used as directed withing the shelf life of the product. User determines suitability of products for intended use and assumes all risks. Buyers sold remedy shall be limited to the purchase price or replacement cost of product supplied exclusive of labor or cost of labor. **NO OTHER WARRANTIES IMPLIED OR EXPRESS SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS OF PURPOSE. MANUFACTURER SHALL SHOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. MANUFACTURER SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

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