

Technical Data Sheet

Publication Date: June 6, 2012

MAX BOND LOW VISCOSITY A/B

MARINE GRADE Epoxy Resin System

- **Non-Critical Mix Ratio, Equal Parts by Volume,**
- **Brush, Roller Coat, Trowel Applied**
- **Lower Viscosity For Easy Wet And Dry Lay-up Application**
- **Improved Fiber Wet-Out**
- **Bonds Steel, Aluminum, Soft Metals, Concrete, Ceramic**
- **High Performance Resin For Composites Fabrication**
- **Excellent Impact Resistance**
- **Excellent Balance of Strength and Flexibility**
- **Excellent Water/Salt Water Resistant for Marine/Aero Applications**
- **Low Shrinkage And Dimensional Stability**
- **Wide range of service temperature**

DESCRIPTION

MAX BOND LOW VISCOSITY A/B is a two-part epoxy/polyamide based adhesive system especially formulated to provide structural bond strength to a variety of substrates. It is a low viscosity version of MAX BOND A/B providing improved ease of use and faster fabric wetting. It is well suited for use in low temperature or cold weather environments.

MAX BOND LOW VISCOSITY A/B provides a moderate pot life, exceptional mechanical properties, and easy application for wet and dry fiberglass, carbon fabric lay-ups. Unlike polyester resins typically used in marine fabrication, which tends to get waterlogged, MAX BOND LOW VISCOSITY A/B demonstrates minimal loss of mechanical properties due to continuous water exposure. Epoxy/Polyamide based resins are one of the best systems to use for applications that will be subject to water immersion and marine environments. It provides excellent resistance to saltwater, acidic and caustic exposure and retains its physical properties even after prolonged water immersion. MAX BOND LOW VISCOSITY A/B is 100 % reactive solids and does not contain Ozone Depleting Chemicals (ODC). MAX BOND LOW VISCOSITY A/B will cure even in humid and low temperature conditions. It is generally room temperature cured but can be snap cured at elevated temperatures for a short period of time.

MAX BOND LOW VISCOSITY A/B demonstrates structural bond strengths to a variety of substrates commonly used in composites industry such as, steel, aluminum and soft metals, fiberglass, concrete and ceramic and most plastics. MAX BOND LOW VISCOSITY A/B performs well in wide range of service temperature and resists cracking and delamination due to cyclic vibration, thermal expansion and contraction

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PHYSICAL PROPERTIES

Density (Mixed)	1.10 gm/cc
Foam and Color	Part A – Clear Liquid
Viscosity Mixed	Part B – Hardener: Tan Liquid
Mix Ratio	5,624 cPs @ 77°F (25°C) Mixed
Working Time	Equal parts by weight or by volume
Peak Exotherm	85 Minutes @ 77°F (25°C) (200 gm mass)
Cure Time	120°F 300 gram mass
	24 Hrs. Minimum or 2 Hrs. @ room temperature plus
	120 min. @ 212°F (100°C)

MECHANICAL PROPERTIES

Hardness	85 ± 5 Shore D
Tee-Peel Strength (Standard)	4 Lbs. per inch Width Aluminum to Aluminum
Compressive Strength	15,800 psi @ 77°F (25°C)
Tensile Shear Strength	3,700 psi @ 77°F (25°C)
	2,200 psi @ -112°F (-80°C)
	1450 psi @ 212°F (100°C)
Elongation	2.3% Maximum Yield
Tensile Strength	8,800 psi
Service Temperature	-67°F to 250°F

CHEMICAL RESISTANCE TEST

10 Day Soak Test @ 77°F (25°C)

	WEIGHT CHANGE, %
3% Salt Water	1.23
Sulfuric Acid 30%	1.9
Nitric Acid	3.8
Toluene	3.7
Sodium Hydroxide	10.00
Anti-Freeze	No Effect
Motor Oil soak	No Effect

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APPLICATION and USAGE

MAX BOND LOW VISCOSITY A/B is self-leveling and easily poured into place and is well suited for mixed meter-dispensing equipment or mix and pour techniques. Large mixes of up to 300 grams are possible without generating excessive exothermic temperatures.

The working time is approximately 90 minutes for a 100-gram total mass and less if mixed in large volumes.

Mixing Instructions

Dispense equal parts of Part A and Part B and mix thoroughly until a homogenous consistency is achieved. The mixture will turn translucent milky amber but will clarify when applied in a thin film during curing. Transfer the mixed resin into another clean container and mix for another minute and use.

For mix metering application, ensure that an equal flow rate of Part A and Part B is achieved. A 24 element static mixer provides excellent mix results. Attach the static mixer and dispense and discard approximately 1-ounce material before using the material. Dispense the material in on corner of the component casing and allow the material to completely flow through out. This technique will reduce voids and air entrapment.

For Bonding Applications

To insure a strong bond, items or substrates to be bonded must be clean and free from contaminants such dust, grease, oils and other foreign materials. Please refer to our Surface Preparation Bulletin for suggested surface cleaning method And Proper Bonding Techniques.

Apply via brush or roller coat properly mixed resin on both substrates and clamp or apply adequate pressure so that a thin bondline is achieved, approximately .003 to .007 inch minimum bondline thickness. Allow to cure overnight.

For Encapsulating Electronic Parts

Premix the Part A and Part B into a container and then pour the mixed component into another clean container and mix for another minute. This will insure a thoroughly mixed resin is achieved. Pre arrange the wire leads to the desired position and secure. Pour the mixed MAX BOND into the component housing to be encapsulated insuring complete and level coverage. Pour or dispense only from one corner of the component casing and allow the material to completely flow and fill through out the casing. This technique will reduce voids and air entrapment.

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For Laminating or reinforcing with Fiber Fabric Materials.

MAX BOND LOW VISCOSITY A/B works well as a laminating resin for composite fabrics such as canvas, fiberglass, carbon fiber, Aramid fiber and other hybrid and synthetic fabrics. Apply a thin layer of the mixed MAX BOND LOW VISCOSITY A/B unto the pre-cleaned substrate to be reinforced. Apply a layer of fiberglass and aide the resin to wet-out the fiberglass using a brush and apply subsequent layers of fabric sandwiching a layer of resin until the desire thickness is achieved. Use a rubber squeegee to remove excess resin. Allow curing for 24 hours. If using a vacuum bag *technique or a platen press, please review our "Lay-up sequence for bagging operations" bulletin.*

For Use as a Concrete or Wood Penetrating or as a Water Sealant

Mix equal parts of Part A and Part B in a clean container and thin with acetone or MEK (about 95 parts mixed resin to 5 parts solvent). Apply on cleaned and dried wood or concrete in thin coats using a roller coater or bristle brush. Work in small areas and with good ventilation. Acetone or MEK is highly flammable solvent. Remove all ignition sources before application. Allow to cure for 36 hours.

PACKAGING AND STORAGE

MAX BOND LOW VISCOSITY A/B is available in 5 gallon and 55 gallon Kits.

Use size kits and special packaging requests are also available.

Store only in its respective original shipping container to insure product stability.

MAX BOND LOW VISCOSITY A/B should be stored in a cool dry place.

DO NOT store above 30°C for prolonged period.

MAX BOND LOW VISCOSITY A/B is warranted for 12 months from the date of shipment.

SAFETY NOTE

This product is for industrial use only. Please review all precautions before using this product. As with all products of the same nature, avoid prolonged inhalation and repeated skin contact. Always wear safety goggles and impervious rubber gloves when handling this material. Large mass curing of this product is not recommended for it may produce noxious fumes.

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