



ISO-9001-2015 Certified

## TECHNICAL BULLETIN

### EPOXIBOND™ EB-316M HIGH STRENGTH, FLEXIBLE EPOXY ADHESIVE

**EB-316M** is a semi-rigid, high strength structural epoxy adhesive. This tough adhesive has an excellent combination of shear and peel strength. It has also excellent impact and vibration resistance and low temperature flexibility. This high-performance medical grade epoxy adhesive passes 500 thermal cycles from -50°C to 150°C. EB-316M is excellent for cryogenic temperature applications.

#### TYPICAL HANDLING PROPERTIES:

Epoxybond	Part-A
Hardener	Part-B
Mix ratio by weight, (A/B)	100/100
Viscosity of PART A at 25°C, cp	30,000-40,000
Viscosity of PART B at 25°C, cp	35,000-50,000
Mix viscosity at 25°C, cps	35,000-45,000
Pot Life at 25°C (100 grams), minutes	45-60
Recommended Cure	2 hr/65°C
Alternate Cure	48 hr/25°C

#### TYPICAL CURED PROPERTIES AFTER RECOMMENDED CURE:

(Tested @ 25°C unless otherwise indicated)

Color	Black
Specific Gravity	1.35
Hardness, Shore D	78
Lap Shear Strength to Aluminum, psi	
-425°F (-253°C)	2400
-100°F (-73°C)	3000
77°F (-25°C)	3200
180°F (82°C)	500
Lap Shear Strength to Aluminum after 7 days, psi	
Immersed in water @ 100°C	2300
Immersed in Isopropanol @ RT	3290
T-peel strength to aluminum, pli	24
Service Temperature range, °C	-55 to 150
Glass Transition Temperature, °C	75
Coefficient of Linear Thermal Expansion, 10 <sup>-6</sup> /°C	
From -55°C to 25°C	77
From 25°C to 90°C	160
Dielectric Strength, Volts/mil	410
Dielectric Constant, 1 kHz	4.28
Dissipation Factor, 1 kHz	0.4
Volume Resistivity, ohm-cm	3x10 <sup>13</sup>

#### INSTRUCTIONS FOR USE:

1. Mix at room temperature, 100 grams of Part-A with 100 grams of Part-B and vacuum degas.
2. Cure as recommended to achieve the desired properties.
3. Typical cured properties were determined using recommended cure schedule.
4. Some difference in properties may occur with the alternate or other cure schedules.

#### FOR INDUSTRIAL USE ONLY:

These materials are intended for industrial use only, and the practices of good housekeeping, safety and cleanliness should be followed before, during and after use.

#### WARNING!

Although the system contains low volatility materials, care should be taken in handling. Adequate ventilation of workplace and ovens is essential. These materials may cause injury to the skin following prolonged or repeated contact and dermatitis in susceptible individuals. In case of skin contact, wash thoroughly with soap and water. For eyes, flush immediately with plenty of water for at least 10 minutes and seek medical attention. Refer to Material Safety Data Sheet for additional health and safety information.

#### SHELF LIFE:

The shelf life of these materials is greater than one year when stored in unopened containers at an average temperature of 25°C.



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### Overlap Shear Strength

(Cured for 24 hrs at 25°C + 2 hrs at 70°C)

Substrate	Strength (psi)
Etched Aluminum	3200
Abraded Aluminum	2000
Cold Rolled Steel	1400
Stainless Steel	1800
Wood	1250
Glass	300
Polycarbonate	1000
Acrylic	600
ABS	1000
PVC	800
Polypropylene	70
Epoxy/Glass	1600

### Overlap Shear Strength vs Temperature

(On Etched Al-Al; Cure: 24 hrs at 25°C + 2 hrs at 70°C)

Substrate	Strength (psi)
-55°C (-67°F)	1800
25°C (77°F)	3200
50°C (122°F)	2000
66°C (150°F)	1300
82°C (180°F)	500

### 180° Peel Strength vs Temperature

(Cured for 24 hrs at 25°C + 2 hrs at 70°C)

Substrate	Strength (piw)
-55°C (-67°F)	3
25°C (77°F)	20
50°C (122°F)	12
66°C (150°F)	5
82°C (180°F)	2



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Option 8 for 24/7 Service



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