



TECHNICAL BULLETIN

EPOXIBOND-348 HIGH TEMPERATURE, LOW EXPANSION ADHESIVE

EB-348 is a highly filled, heat curing, high temperature resistant epoxy adhesive. It maintains high lap shear strength up to 230°C and has excellent thermal and chemical resistance. Due to its low coefficient of thermal expansion and outgassing, it can be used for bonding and sealing in critical instrument applications. It is recommended for bonding metals, glass, and ceramic substrates.

TYPICAL HANDLING PROPERTIES:

| | |
|--|-----------------------------|
| Adhesive | EB-348 |
| Hardener | EH-3 |
| Mix ratio by weight, (Adhesive/Hardener) | 100/5 |
| Mixed Viscosity, cps at 25°C | 300,000 |
| Pot Life (100 grams) at 25°C | 2 hrs |
| Recommended Cure | 2 hrs @ 100°C + 2 hrs @ 175 |
| Alternate Cure | 1 hr @ 165°C |

TYPICAL CURED PROPERTIES AFTER RECOMMENDED CURE:

(Tested @ 25°C unless otherwise indicated)

| | |
|---|---------------------|
| Color | Black |
| Specific Gravity | 1.76 |
| Hardness, Shore D | 93 |
| Water Absorption, % | |
| 24 hrs immersion at 25°C | 0.05 |
| 7 days immersion at 25°C | 0.2 |
| Linear Shrinkage, % | 0.26 |
| Thermal Conductivity, W/m ² K | 0.5 |
| Lap Shear Strength to Aluminum, psi | |
| At -55°C | 1900 |
| At 25°C | 2000 |
| At 100°C | 1400 |
| Flexural Strength, psi | 13,600 |
| Flexural Modulus, psi | 1.3x10 ⁶ |
| Service Temperature range, °C | -55 to 230 |
| Glass Transition Temperature, °C | 194 |
| Coefficient of Linear Thermal Expansion, 10 ⁻⁶ /°C | |
| Below T _g | 23 |
| Above T _g | >100 |
| NASA Outgassing Data | |
| % TML | 0.343 |
| % CVCM | 0.002 |
| Dielectric Constant at 1 kHz | 4.0 |
| Dissipation Factor at 1 kHz | 0.005 |
| Volume Resistivity, ohm-cm | 2x10 ¹⁵ |

INSTRUCTIONS FOR USE:

1. Weigh each 100 grams of EB-348 to 5 grams of Hardener EH-3.
2. Mix until uniform. Scrape the sides and bottom of container repeatedly during mixing.
3. Apply to clean bonding surfaces and cure as recommended to achieve the desired properties. Typical cured properties were determined using recommended cure schedule. Some difference in properties may occur with the alternate or other cure schedules.

FROZEN ADHESIVE:

Thaw premixed frozen adhesive at room temperature for 5-10 minutes. Dispense adhesive and cure at recommended schedules.

AVAILABILITY:

2 parts Kit - Packaged in Pint, Quart, Gallon, and 5-Gallon size

Premixed and frozen - Packaged in 3cc, 5cc, 10cc and 30cc disposable syringes and ship in dry ice at -80°C.

FOR INDUSTRIAL USE ONLY:

Practices of good housekeeping, safety and cleanliness should be followed before, during and after use.

WARNING!

Adequate ventilation of work place 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 (**MSDS**) for additional health and safety information.