



ISO-9001-2015 Certified

718 Park East Drive, Woonsocket, RI 02895, USA

Phone: (401) 726-4500

Email: [info@epoxyset.com](mailto:info@epoxyset.com) ■ Web: [www.epoxysetinc.com](http://www.epoxysetinc.com)

# TECHNICAL BULLETIN

## EPOXIBOND™ EB-316TC-2

### THERMALLY CONDUCTIVE EPOXY ADHESIVE

**EB-316TC-2** is a two component, thermally conductive, electrically insulating epoxy designed for heat sinking electronics and semiconductors. It may be used as an adhesive, potting, or encapsulation material, for industries such as consumer, medical or optics.

#### Features & Applications:

- 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 epoxy adhesive passes 500 thermal cycles from -50°C to 200°C.
- **Semiconductor:** capillary flow underfill for flip chip mounted die and glob top fill encapsulant.
- **Electronics:** heat sinking; thermally conductive potting and general protection of PCB and SMDs; potting and protection of resistor coils or Peltier devices.

#### TYPICAL HANDLING PROPERTIES:

Viscosity, 25°C	>250,000
Mix Ratio by weight/Volume (A/B)	1:1
Pot Life at 25°C (100 grams), minutes	45
Shelf life @ 25°C	1 year
Recommended Cure:	2 hrs/80°C
Alternate Cure:	24 hrs/25°C + 1 hr/100°C

#### TYPICAL CURED PROPERTIES AFTER RECOMMENDED CURE:

(Tested @ 25°C unless otherwise indicated)

Color	Black
Specific Gravity	2.1
Hardness, Shore D	81
Lap Shear Strength to Aluminum, psi	>3000
T-peel strength to aluminum, pli	14
Thermal Conductivity, W/m <sup>2</sup> K	1.8
Service Temperature range, °C	-55 to 200
Glass Transition Temperature, °C	90
Coefficient of Linear Thermal Expansion, 10 <sup>-6</sup> /°C	
Below Tg	77
Above Tg	>140
Dielectric Strength, Volts/mil	420
Dielectric Constant, 1 kHz	5.3
Dissipation Factor, 1 kHz	0.4
Volume Resistivity, ohm-cm	3x10 <sup>14</sup>

#### INSTRUCTIONS FOR USE:

1. Weigh each 100 grams of PART-A to 100 grams of Hardener PART-B.
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.
4. Typical cured properties were determined using recommended cure schedule.
5. Some difference in properties may occur with the alternate or other cure schedules.

#### PACKAGING OPTIONS:

Packaged in Pint, Quart, Gallon, and 5-Gallon size. Also available in 50ml, 200ml 400ml dual cartridges.

**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 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 Safety Data Sheet (**SDS**) for additional health and safety information.

**DISCLAIMER:** All data given here is offered as a guide to the use of these materials and not as a guarantee of their performance. The user should evaluate their suitability for own purposes. Properties are typical and should not be used in preparing specifications. Statements are not to be construed as recommendations to infringe any patent.