



ISO-9001-2015 Certified

## TECHNICAL BULLETIN

### EPOXICAST™ EC-1009

#### THERMALLY CONDUCTIVE POTTING COMPOUND

**EC-1009** is a pourable, filled epoxy resin system featuring high thermal conductivity, good electrical insulation, and low shrinkage during cure. It is useful for potting and encapsulating components and modules where removal of heat and resistance to mechanical and thermal shock are prime considerations. Typical Applications includes potting or encapsulating densely packaged power supplies, integrated circuits, small transformers, capacitors bushings etc.

#### TYPICAL HANDLING PROPERTIES:

Epoxicast	EC-1009
Hardener	EH-21
Mix ratio by weight, (Epoxicast/Hardener)	100/10
Mixed viscosity at 25°C, cp	3000-5000
Pot life at 25°C (100 gram), hrs	3
Recommended Cure	3 hrs @ 65°C
Alternate Cure	24-48 hrs @ 25°C

#### TYPICAL CURED PROPERTIES:

(Tested @ 25°C unless otherwise indicated)

#### CURE SCHEDULE

24 hr/RT    3 hr/65°C

	<u>24 hr/RT</u>	<u>3 hr/65°C</u>
Color	Black	Black
Specific Gravity	1.9	1.9
Hardness, Shore D	86	89
Linear Shrinkage, %	0.017	0.31
% Water Absorption % (24 hr immersion @ RT)	0.18	0.09
% Weight loss, % (10 days exposure at 125°C)	0.22	0.22
Thermal Conductivity, W/m <sup>2</sup> K	1.5	1.6
Glass Transition Temperature, °C	56	70
CTE, 10 <sup>-6</sup> /°C		
Below Tg	31	34
Flexural Strength, psi	16,250	18,100
Flexural Modulus, psi	12x10 <sup>5</sup>	9x10 <sup>5</sup>
Dielectric Constant at 1 kHz	6.1	6.1
Dissipation Factor at 1 kHz	0.015	0.014
Volume Resistivity, ohm-cm	2x10 <sup>15</sup>	3x10 <sup>15</sup>
Service Temperature range	-55°C to 155°C	

#### INSTRUCTIONS FOR USE:

Stir well the contents of each container every time before removing material. If the contents are hard or lumpy, warm to 80°C and mix thoroughly before removing material.

1. Weigh each 100 grams of EC-1009 to 10 grams of Hardener EH-21.
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. Some difference in properties may occur with the alternate or other cure schedules.

#### AVAILABILITY:

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

#### 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 Material Safety Data Sheet (**MSDS**) for additional health and safety information.