ISO-9001-2015 Certified

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TECHNICAL BULLETIN

EPOXICAST™ EC-1015

THERMALLY CONDUCTIVE POTTING COMPOUND

EC-1015 is a low viscosity pourable filled epoxy resin system featuring high thermal conductivity, good electrical insulation, and low shrinkage during cure. It is useful for potting and encapsulating densely packaged electrical applications.

Features & Applications

- It offers the excellent heat transfer, high voltage insulation and dimensional stability over a wide temperature range.
- As an encapsulant for power devices it distributes heat evenly throughout the casting, providing greater efficiency and longer working life.
- Excellent performance in densely packaged power supplies, integrated circuits, thick film hybrid devices, D/A converters, oscillators, amplifiers, relays, transformers and semiconductors etc.

TYPICAL HANDLING PROPERTIES:

Epoxicast	EC-1015
Hardener	EH-10
Mix ratio by weight, (R/H)	100/25
Resin viscosity, cps	
@ 32°C (90°F)	40,000
Mixed viscosity at 25°C, cp	3000-5000
Pot life at 25°C (500 gram), hours	>8
Recommended Cure	**2 hr/70°C + 2 hr/150°C**
Alternate Cure	**4 hr/100°C**

TYPICAL CURED PROPERTIES AFTER RECOMMENDED CURE:

(Tested @ 25°C unless otherwise indicated)

Color	Black
Specific Gravity	1.95
Hardness, Shore D	92
Linear Shrinkage (%)	0.3
Water Absorption (24 hr at RT), %	0.04
Thermal Conductivity, W/mK	1.2
Service temperature range, °C	-55 to 180
Glass Transition Temperature, °C	145
Coefficient of Thermal Expansion, 10^{-6}/°C	
Below Tg	34
Above Tg	>140
Flexural Strength, psi	12,300
Flexural Modulus, psi	1.2×10^6
Dielectric Constant at 1 kHz	
At 25°C	4.73
At 100°C	4.84
Dissipation Factor at 1 kHz	
At 25°C	0.01
At 100°C	0.01
Volume Resistivity, ohm-cm	
At 25°C	1×10^{16}
At 100°C	1.5×10^{15}

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-1015 to 25 grams of Hardener EH-10.
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. Refer to Material Safety Data Sheet **(MSDS)** 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.