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TECHNICAL BULLETIN

EPOXICAST-1082
HIGH PERFORMANCE POTTING COMPOUND

EC-1082 is a highly filled high performance epoxy system featuring relatively low mixed viscosity. The cured system provides very low shrinkage stress, low coefficient of thermal expansion, high strength, high modulus of elasticity and excellent thermal shock resistance. The cured system provides high dimensional stability, low outgassing, excellent dielectric properties and chemical resistance.

It is useful for potting and encapsulating motor stators, electromagnetic devices and precision electronic devices operating in extreme environments.

Features & Applications:

- High temperature epoxy - resist >200°C processes found in ceramic or hermetic packaging
- Smooth, flowing with excellent handling characteristics
- Excellent solvent and chemical resistance - ideal for harsh environments found in aircraft, under-hood automotive, medical, and petrochemical refineries
- Hermetic seals in the packaging of MEMs devices, like pressure sensors or accelerometers
- Suggested for ultra-high vacuum applications,
- Sealing of optical filter windows found in scientific OEM or sensor devices

TYPICAL HANDLING PROPERTIES:

Epoxicast	EC-1082
Hardener	EH-26
Mix ratio by weight, (Resin/Hardener)	100/8
Mix viscosity at 70°C, cp	1200
Pot life at 70°C (500 grams), minutes	45-50
Recommended Cure	3 hr/70°C + 12 hr/100°C
Alternate Cure	4 hr/125°C

TYPICAL CURED PROPERTIES:

Color	Black
Specific Gravity	1.82
Hardness, Shore D	94
Linear Shrinkage (%)	0.07
Water Absorption (24 hr at RT), %	0.03
Thermal Conductivity, Btu.in/hr.°F.Ft^2	4.2
Service temperature range, °C	-55 to 180
Glass Transition Temperature, °C	138
Coefficient of Thermal Expansion, 10^{-6}/°F	
From -55°C to 25°C	11.8
From 25°C to 100°C	13.5
Flexural Strength, psi	24,800
Flexural Modulus, psi	1.82×10^6
Dielectric Strength, Volts/mil	480
Dielectric Constant at 1 kHz	4.6
Dissipation Factor at 1 kHz	0.01
Volume Resistivity, ohm-cm	2×10^{15}

INSTRUCTIONS FOR USE:

1. Preheat EC-1082 at 50-60°C. Weigh each 100 grams of EC-1082 to 8 grams of Hardener EH-26.
2. Mix until uniform. Scrape the sides and bottom of container repeatedly during mixing. Degas the mixture.
3. Pot the components and again degas the part 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.

AVAILABILITY:
2 parts Kit - Packaged in Pint, Quart, and 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 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 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.