HumiSeal® E23CLR-H25
Epoxy Potting Compound

HumiSeal® E23CLR-H25 is an unfilled 2-component epoxy that is self-extinguishing. This system meets UL94 V0. HumiSeal® E23CLR-H25 has a rigid cure with excellent adhesion and chemical resistance as well as excellent air release with high gloss finish upon cure. HumiSeal® E23CLR-H25 finds use in dipping or coating of circuit boards, potting, casting and encapsulating. Can be used as an adhesive.

Applications	Features	Substrates
Magnetic components	Meets UL94-V0 / self-extinguishing	Metals
Filters	Great cosmetics / high gloss	Plastics
Pulse transformers	Reduced hardener	Ceramics

Typical Properties of HumiSeal® E23CLR-H25

Chemical Class	Unfilled Epoxy
Mixed Color	Clear
Viscosity, Part A (resin) @ 25°C, cPs	6,000
Viscosity, Part B (hardener) @ 25°C, cPs	40
Viscosity, mixed, cPs	1,300
Specific Gravity Part A / Part B, g/cm^3	1.44 / 1.00
Specific Gravity Mixed, g/cm^3	1.36
Shelf Life, Resin / Hardener, months	12 / 12

Mix Ratio, by Volume, (resin:hardener)	4.1:1
Mix Ratio, by Weight, (resin:hardener)	100:17
Cleanup Solvent	Isopropyl alcohol
Pot Life @ 22°C, 100g mass, minutes	90
Cure Time @ 22°C, hours	12-24

Durometer, Shore D	78
Operating Use Temperature Range, °C	95
Coefficient Thermal Expansion, above/below Tg, ppm/°C	81 / 359
Glass Transition Temperature, °C	92
Volume Resistivity, Ω·cm	1.2 x10^{14}
Dielectric Constant, Test frequency: 1MHz per ASTM D150	4.1
Dielectric Strength, Oil rate of rise (short time): 500V/sec per ASTM D149, kV/mm	13.6
Dissipation Factor, Test frequency: 1MHz per ASTM D150	0.026

*All properties given are typical values and are not intended for use in preparing specifications

MIXING

Best practice is to independently pre-stir both resin (part A) and hardener (part B) thoroughly prior to use. When combining the resin and hardener, best practice is to add hardener to pre-measured resin and thoroughly mix ensuring material is scraped from container sidewalls and bottom corners to achieve a homogeneous blend. Avoid excessive agitation during mixing to minimize air entrapment, which can lead to voids in the cured material. For critical applications, vacuum degassing of the mixed material can be implemented; a typical vacuum level of ~25–29 inHg (≈85–98 kPa below atmospheric, or ~50–200 mbar absolute) is sufficient to remove entrained air. Reduce vacuum slowly to prevent foam-over, then maintain vacuum until visible bubbling subsides.

CURING

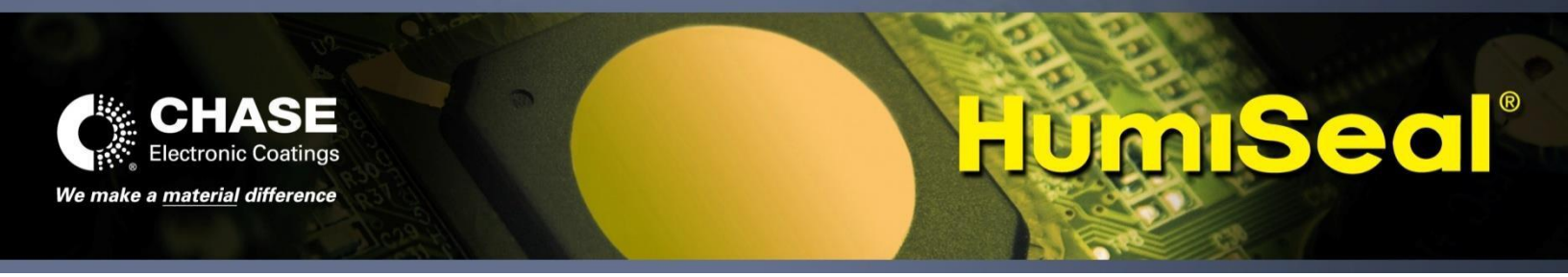
Two-part epoxy potting systems cure via an exothermic reaction, and cure speed is dependent on mass and geometry. Larger or thicker pours will generate greater heat buildup and cure more rapidly, while thinner sections dissipate heat more efficiently and exhibit longer working and cure times. Stated pot life and cure times are based on a 100g mass and will vary depending on the specific application. 7 days required for full properties.

STORAGE

Store material in cool, dry location at a temperature between 10°C to 28°C. Keep from freezing. Consult SDS for safe handling recommendations.

CAUTION

- Use only in well-ventilated areas to avoid inhalation of vapours or spray.
- Avoid contact with skin and eyes.
- Consult SDS prior to use.



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