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Innovative Chemistry For High-Tech Applications

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EP-1000

SILVER FILLED ELECTRICALLY CONDUCTIVE SINGLE COMPONENT EPOXY ADHESIVE

EP-1000 is a unique, one part electrically conductive epoxy adhesive used for surface mount component attachment, termination and other applications in hybrid circuits, membrane switches and other electromechanical assemblies. The rheology of EP-1000 makes it an ideal material for dot dispense applications. It is especially suited for small dot patterns for placement of small LED's. EP-1000 exhibits excellent adhesion to most metal and plastic substrates and has excellent temperature resistance and toughness. EP-1000 is available in pre-weighed and sealed plastic pouches, open containers or plastic syringes. For stencil printing processes, EP-900 two component or EP-1100 single component adhesives are recommended.

EP-1000 is compatible with all of our silver conductive inks, UV curable encapsulants, dielectrics and conformal coatings. Contact us for suitability of use with other materials.

TYPICAL PROPERTIES

VALUES

Appearance	Thixotropic Silver Colored Paste
Viscosity (Room Temperature)	65,000 to 80,000 cps
Shelf Life (Ambient Temperature)	30 Days In Unopened Container
Hegman Gage	<100 μ
Volume Resistivity (ref. ASTM D-257)	<5.0 x 10 ⁻⁴ Ω-cm
Coefficient Of Thermal Expansion	
<i>Below Tg</i>	6.0 x 10 ⁻⁵ in/in/°C
<i>Above Tg</i>	1.5 x 10 ⁻⁴ in/in/°C
Thermal Conductivity	11 BTU in/ft ² hr °F
Glass Transition Temperature (TMA)	75°C (Fully Cured)
Operating Temperature Range	-55 °C to +175 °C Continuous Intermittent at higher temperatures when fully cured.

Curing Schedule	(Time At Temperature)	90% Cure	Complete Cure
120°C		5 minutes	15 minutes
140°C		3 minutes	5 to 7 minutes

At 90% cure, the assembly can generally be handled carefully without the danger of damaging the adhesive bond. EP-1000 will not continue to cure at room temperature once heat is removed. Cure times above are intended as guidelines, and are dependent on the actual glue line being held at the given temperature.

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APPLICATION GUIDELINES

Dot dispensing can be accomplished utilizing positive displacement or pneumatic actuated equipment. EP-1000 exhibits quick break off after dispensing, and will not cause shorts from stringing in high-speed automated production processes.

Because EP-1000 has a shelf life of 30 days at room temperature, the rheological properties allow for accurate and repeatable pad geometries over long production runs. While the viscosity of the mixed material will change gradually over the 30-day storage window, most application equipment can easily compensate for the rheological changes to accurately maintain pad configuration.

PACKAGING

EP-1000 is available in pre-weighed open containers, plastic pouches and EFD type syringes. There is no minimum purchase quantity with the open container packaging option. Contact Conductive Compounds, Inc. for more information about plastic pouch or EFD type syringe packaging configurations.

The above guidelines are intended to provide a starting point for evaluation. Conductive Compounds, Inc. recognizes that each customer's manufacturing process is unique, and we can customize the rheology and curing properties of EP-1000 to conform more closely to your process parameters. Call us to discuss your application in more detail.

NOTE: Although the above properties are accurate to the best of our knowledge, Conductive Compounds, Inc. makes no guarantees for customer specifications established in applications where this product is used. Customer assumes responsibility for determining fitness of use in their particular application.