XYMOX® TECHNOLOGIES, INC.

Technical Data Sheet
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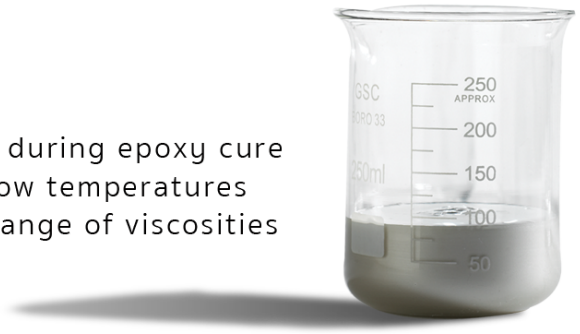
Sun Ray Conductive Epoxy 501

Conductive Epoxy 501 was developed for use as a conductive structural attachment for surface mounted devices on polyester circuitry, thermoplastic circuitry and paper phenolic rigid laminates. This material forms a strong bond with these substrates and silver inked circuits.

The material is available in a range of viscosities and is stencilable, screenable, and dispensable depending on the process used by the customer.

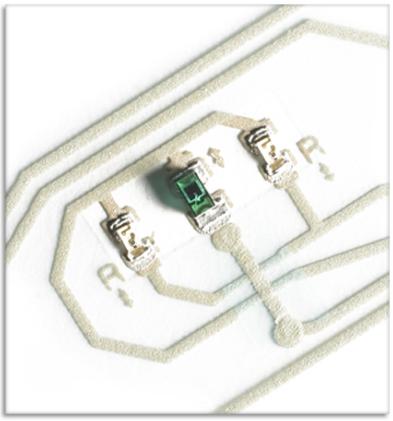


Advantages

- Push off strengths in excess of 3 pounds for many leaded components
- Outstanding corrosion resistance
- Zero migration during epoxy cure
- Rapid cure at low temperatures
- Available in a range of viscosities

Material Specifications

Viscosity:	Always >60,000 cps typical @25°C, Brookfield Model RV, #7 Spindle at 20 RPM, and can be customized
Shelf Life:	Three months uncatalyzed and refrigerated
Substrate:	Treated or untreated polyester, FR-1 or FR-2 rigid PWBs
Joint Resistance:	<300 milliohms depending on leads
Percent Solids:	90 ± 5%
Operating Temperature:	-40°C to 85°C
Pigments:	Silver Flake
Binder:	Catalyzed Epoxy
Solvent:	DBE-1
Appearance:	Dark Silvery Paste
Density:	14.8 lbs per gallon
Flash Point:	212°F via TCC



Processing Guidelines

Surface should be dry and free from contamination. Stored circuits must be inspected before population since they may have been contaminated during storage. An isopropanol-water wash may be necessary to eliminate contamination.

Mixing and Application: The epoxy and catalyst must be accurately mixed and blended before application. Hand stirring is typically sufficient but a small hand stirrer might eliminate human mixing error.

The material is supplied as two components, which must be adequately mixed. The typical ration is 2.5 grams of catalyst to 97.5 grams of conductive epoxy.

Clean Up: DBE solvent should be used for clean up

Curing Conditions: 120°C for 15 minutes or 130°C for 10 minutes

The catalyzed material, utilizing 2.5% Catalyst, maintains stencilability for at least 3 hours, depending on the ambient conditions during dispensing, screening or stenciling.

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Reliability Data

Characteristic	Test Condition	Results
Thermal Shock	-40°C to 70°C	No issues
Dry Heat	70°C for 500 hours	No issues
Low Temperature	-30°C for 500 hours	No issues
Temperature/Humidity	55°C/95% Rh - 85°C/50% Rh @ 70 days	No issues
Flowers of Sulfur	25 PPM - 65°C/85% Rh @240 days	No issues

Storage and Shelf Life

Store unopened cans of conductive epoxy in refrigerator.
Store the catalyst in unopened containers at room temperature (70°F).
Sometimes the catalyst has a tendency to crystallize. If it does it can be warmed to 90°C for 30 minutes or less and then used. Care must be taken to avoid breathing into the catalyst jar because the catalyst can absorb carbon dioxide and lose its efficiency.

Safety and Handling

This product contains organic solvents and materials. The following precautions should be exercised when handling this material:

- Use with adequate ventilation
- Avoid prolonged skin contact
- Avoid prolonged breathing of vapors
- If contact with skin occurs, wash affected area immediately with soap and water
- Dangerous if swallowed - do not consume