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TECHNICAL DATA SHEET

EP-900 TWO PART SILVER CONDUCTIVE EPOXY for Stencil Printing

EP-900 is used for **component attachment, termination**, and other applications in:

- **hybrid circuits**
- **membrane keypads**
- **other electromechanical assemblies**

EP-900 is intended for use in **stencil printing processes**.

DESCRIPTION

- Rheology and long working time of EP-900 allow for clean, consistent, stencil patterns over a long production cycle
- Cures quickly at relatively low temperatures
- The unique chemistry of EP-900 allows the end user to prolong the working time after mixing by reducing the amount of part B used, provided that more time is allowed at temperature for curing.
- Exhibits excellent adhesion to most metal and plastic substrates, excellent temperature resistance and toughness, and allows for differences in coefficients of thermal expansion between two bonded substrates
- Lateral component push-off testing on print treated Mylar substrates show that EP-900 has excellent bond strength compared to other conductive epoxy adhesives.
- Packaging in pre-weighed amounts allows for ease of use in fast paced production environments.

Applied Ink Solutions can modify the cure speed, working time, or rheology of EP-900 to make it more compatible with your unique manufacturing process. EP-900 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. EP-900 is not recommended for applications requiring room temperature curing.

TYPICAL PROPERTIES

Appearance	Part A	Thixotropic dark silver colored paste
	Part B	Straw colored liquid
Mix Ratio		100 parts A (by weight) to 3.6 parts B
Viscosity (mixed, room temperature)		
Brookfield DV-III, 52 cone at 10 rpm		80,000 cps mixed
Shelf Life (Unmixed)		6 months in unopened container
Pot Life (25 Grams, room temperature)		> 4 hours
Thin Film Set Time (.001" @ 25°C)		>12 hours
Total % NV Solids		100%
Hegman Gauge		<50 µ
Volume Resistivity (ref. ASTM D-257)		<1.0 x 10^{-3} Ω-cm
Operating Temperature Range (Fully Cured)		-55°C to +125°C continuous, intermittent at higher temperatures

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Guidelines are intended to provide a starting point for evaluation. Applied Ink Solutions recognizes that each customer's manufacturing process is unique, and we are available to provide technical assistance to resolve your processing issues. Call us to discuss your application in more detail.

The properties are accurate to the best of our knowledge and Applied Ink Solutions 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.

Curing Time (@ Temperature)	
125° C	35 minutes
140°C	7 minutes

It is strongly recommended that EP-900 be completely cured at higher temperatures, as curing will not continue appreciably once the material cools back to room temperature. UV-3010 clear encapsulant should be used to reinforce device bond.

Application Guidelines

In general, a more open screen with thicker emulsions will give a larger pad of adhesive for bonding devices. Care must be taken to not apply an excess of material, as the adhesive will flow under the device during placement and curing, and could cause a short. EP-900 should not be thinned with solvent if it is being used for component surface mount applications. It can be thinned with solvent for use in spray or coating processes. EP-900 can be cleaned up easily using standard industrial solvents such as MEK, Toluene, isopropyl alcohol and Acetone.

Screening

A monofilament polyester (157 to 200 mesh) or a stainless steel (165 to 270) mesh screen is recommended, with emulsion thickness between .001" and .004". A polyurethane squeegee with a Shore 'A' durometer between 60 and 70 is recommended.

Stencil Printing

Stencil printing can be accomplished using a wide range of stencil thicknesses (typically from .002" to .008"). A steel squeegee is recommended, with the squeegee placement at a slight angle from vertical. Stroke speed will be dependent upon size of stencil and placement of apertures, and it is recommended that printing be performed in both directions in order to transfer material automatically to both squeegees. Stencil printing should be done with a small offset (typically .040") in order to achieve clean patterns.

Packaging

EP-900 is available in bulk open containers, and pre-weighed, separated plastic pouches (CC-Paks). The minimum purchase quantity with the bulk open container packaging option is 100 grams.

Health & Safety

Products manufactured by Applied Ink Solutions are intended for use in an industrial environment by trained personnel. Please follow proper health/safety processes regarding storage, handling and processing of the products.