



17 Hampshire Drive, Unit 8
Hudson, NH 03051

www.conductivecompounds.com

Innovative Chemistry For High-Tech Applications

Phone: (603) 595-6221

Fax: (603) 595-6228

EP-900

SILVER FILLED ELECTRICALLY CONDUCTIVE TWO PART STENCIL PRINT EPOXY ADHESIVE

EP-900 is a unique, two part electrically conductive epoxy adhesive used for component attachment, termination and other applications in hybrid circuits, membrane keypads and other electromechanical assemblies. EP-900 is intended for use in stencil printing processes. The rheology and long working time of EP-900 allow for clean, consistent, stencil patterns over a long production cycle. EP-900 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. EP-900 is not recommended for applications requiring room temperature curing. EP-900 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. Conductive Compounds, Inc. 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.

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, cpe 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)		n/a
Total % NV Solids		100%
Hegman Gage		<100 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

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.

MORE INFORMATION ON REVERSE SIDE

EP-900
SILVER FILLED ELECTRICALLY CONDUCTIVE
TWO PART STENCIL PRINT EPOXY ADHESIVE

APPLICATION GUIDELINES

For 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.

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.

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.

EP-900 can be cleaned up easily using standard industrial solvents such as MEK, Toluene, isopropyl alcohol and Acetone.

PACKAGING

EP-900 is available in bulk open containers, and pre-weighed, separated plastic pouches (CC-Packs). There is no minimum purchase quantity or standard package size with the bulk open container packaging option.

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 of EP-900 to conform to the process parameters. We are also available to provide technical assistance to resolve your processing issues. 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.