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Innovative Chemistry For High-Tech Applications

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AG-800

SILVER FILLED ELECTRICALLY CONDUCTIVE SCREEN PRINTABLE INK / COATING

AG-800 is a unique, electrically conductive silver filled ink designed for high-speed screen printing in flex circuit, membrane switch, and other additive circuit applications. AG-800 is formulated to provide fast drying at low oven temperatures, while maintaining long open times on screens. AG-800 is tough, scuff resistant, and has excellent adhesion to most metal surfaces as well as polyester, polyimide and some polycarbonate (based on grade) films. Crease resistance of AG-800 is outstanding when used on these substrates. Indium tin oxide substrates require the use of our AG-500 silver conductive ink. AG-800 can be thinned with solvent for spraying or dipping for EMI/RFI shielding applications.

AG-800 is compatible with our UV curable dielectrics, conductive epoxy adhesives, UV curable component encapsulants and conformal coatings.

AG-800 can be blended with C-200 carbon resistive ink to obtain intermediate resistance values.

TYPICAL PROPERTIES

Appearance	Thick Silver Colored Paste
Viscosity	
SC4-14 spindle @ shear 2, 25° C	11,000 cps
Thixotropic Ratio	2.3
Drying Time	90 Seconds to 6 Minutes At 100°C (Depending Upon Air Flow)
Total % NV Solids	56% +/- 2%
Hegman Gage	<50.0 μ
Volume Resistivity (ref. ASTM D-257)	$4.0 \times 10^{-4} \Omega\text{-cm}$
Surface Resistivity	< .015 Ω/Square When Fully Dried
Theoretical Coverage (Dried Film)	41m ² /gallon/25μ (440 ft ² /gallon/mil)

MORE INFORMATION ON REVERSE SIDE OF SHEET

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.

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APPLICATION GUIDELINES

AG-800 will thicken when it is stored in sealed containers over a period of time. It is essential to mix the material thoroughly before use to re-disperse any settled silver particles and to return the ink to a more desirable viscosity.

For screening, a monofilament polyester (157 to 230 mesh) or a stainless steel (165 to 325 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.

For thinning and cleanup, use 1-methoxy-2-propanol acetate (PM acetate) or dibasic ester solvents. If faster drying time is required, contact Conductive Compounds, Inc. for solvent recommendations. If solvent based inks are left on screens for any length of time, the ink will gradually thicken as solvent evaporates. If ink is to be left on an inactive press for any length of time, solvent evaporation can be minimized by pooling the ink into a small area instead of leaving it spread out over a large area. Pooling the ink reduces the surface area, thus slowing the drying process. Always check the viscosity of ink that has been recovered from a screen and add small amounts of solvent while mixing thoroughly to restore viscosity. Solvent can be added to reclaim thickened ink as long as the ink has not dried and hardened completely.

It is essential that all residual solvent be removed from this ink once it is applied. Incomplete drying will cause the ink to appear dry on the surface while trapping solvent underneath the surface. Over time, this trapped solvent will migrate out of the ink, and can cause adhesion problems with any material (such as dielectrics) applied over the ink. To check completeness of drying, evaluate the point-to-point resistance along one of the screened conductive paths after one pass through the drying oven or one cycle in a batch-drying oven. Run the substrate through another drying cycle. Measure the point-to-point resistance again along the same path and compare it to the original reading. If the resistance decreases by less than 10%, then the ink is essentially dry after the first drying cycle or pass through the oven. If the resistance decreases by more than 10%, then more drying time is required to completely remove the solvent.

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 are available to provide technical assistance to resolve your processing issues. Call us to discuss your application in more detail.

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