



## TECHNICAL DATA SHEET

### AG-510 SILVER CONDUCTIVE INK

AG-510 is designed for screen printing in:

- flex circuit
- membrane switch
- touch screens
- other printed electronic applications

#### DESCRIPTION

- Silver filled, electrically conductive, screen printable ink or coating
- Can be printed on ITO
- Can be thinned with solvent for spraying or dipping for EMI/RFI shielding applications
- Extremely tough, scuff resistant, crease resistant and has excellent adhesion to polyester, polyimide and most other substrates.
- Designed to give a good balance between long open time on screens and short drying time in subsequent drying processes.
- Compatible with our UV curable dielectrics, all of our conductive epoxy adhesives and our UV curable component encapsulants and conformal coatings.
- Formulation of AG-510 balances longer open time with quicker drying
- AG-510 can be blended with C-100 carbon resistive ink to give intermediate resistivity ranges.

#### TYPICAL PROPERTIES

Appearance	Thixotropic silver colored ink
Viscosity	
SC4-14 spindle @ shear 20, 25°C	3,400– 4,200 cps
Thixotropic Ratio	1.8-2.2
Drying Time	90 seconds to 4 minutes at 130°C (depending upon air flow and oven heat profile)
Total % NV Solids	68% +/- 2%
Hegman Gauge	<10.0 μ
Surface Resistivity	< .015 Ω/square /mil when fully dried
Shelf Life	6 months in unopened container

# AG-510 SILVER CONDUCTIVE INK

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.

## Application Guidelines

AG-510 will settle 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.

## 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.

## Thinning & Cleanup

Use Solvent 20 for thinning. Use Solvent 10 or a suitable screen cleaner for cleanup. If faster drying time is required, contact Applied Ink Solutions 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.

## Drying

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.

## 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.

## 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.