

TECHNICAL DATA SHEET

AGCL-675 FINE PARTICLE SILVER/SILVER CHLORIDE ELECTRICALLY CONDUCTIVE INK FOR SCREEN PRINTING

AGCL-675
is designed
for screen printing
medical EEG and
EKG sensors

DESCRIPTION

- can be easily blended with other silver conductive inks in order to achieve intermediate resistance values
- extremely tough, scuff resistant and has excellent adhesion to polyester, polyimide and other plastic substrates, with outstanding crease resistance when used on these substrates
- dries to a smooth surface finish in order to optimize surface area contact to enhance electrode interaction
- designed to dry quickly after printing, without clogging screens during long runs
- compatible with our UV curable dielectrics, conductive epoxy adhesives, UV curable component encapsulants and conformal coatings

TYPICAL PROPERTIES

Appearance	Thixotropic silver colored paste
Viscosity (cps)	
Brookfield #7RF spindle, 4 rpm	55,000 ± 5%
10 rpm	35,000 ± 5%
Drying Schedule	4 to 8 minutes at 140°C (depending upon oven heat profile, air flow, humidity and print thickness)
Shelf Life	6 months in unopened container
Total % NV Solids	68% ± 2%
Thin Using	Carbitol Acetate
Hegman Gage	<50.0 μ
Volume Resistivity (ref. ASTM D-257)	N/A
Surface Resistivity	<35 mΩ, .001" dry film

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Application Guidelines

- AGCL-675 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. Care should be taken to minimize material exposure to light. Yellow lights, screens or UV filters should be utilized above presses where material is being printed. Humidity needs to be kept to moderate levels, as moisture can also affect silver chloride over longer periods of time.

Screening

- A monofilament polyester (180 to 260 mesh) screen is recommended, with emulsion thickness between .001" and .003". A polyurethane squeegee with a Shore 'A' durometer between 60 and 70 is recommended. All mixing blades, flood bars and spatulas must not have metal on the surface. Metals, especially aluminum, react aggressively with silver chloride. If metal flood bars and utensils are used, they must be wrapped completely with an inert tape, such as Teflon tape.

Thinning & Cleanup

- Thin using carbitol acetate (DE acetate) or PM acetate. Use PM acetate for cleaning screens. 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.

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 Conductive Compounds, Inc. 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.

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.

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