



AGCL-1134 SILVER/SILVER CHLORIDE INK

Description

AGCL-1134 Silver/ Silver Chloride Ink is a fine particle electrically conductive ink designed for printing disposable EKG and EEG electrodes, defibrillator pads and medical sensors.

Features

- Screen print, dip, or thin for gravure print
- Dries to a smooth surface finish in order to optimize surface area contact for enhanced electrode interaction
- Designed to dry quickly after printing
- Excellent adhesion & crease resistance to polyester, polyimide & other plastic substrates
- Extremely tough & scuff resistant
- Can be blended with other silver conductive inks to achieve intermediate resistance values
- Compatible with our UV curable dielectrics, conductive epoxy adhesives & UV curable component encapsulants
- Other silver to silver chloride ratio products are available

Sensitive Material - DO NOT expose to light for long periods and DO NOT allow material to contact metal.

TYPICAL PROPERTIES

Appearance	Silver paste
Viscosity: Brookfield DV-III Ultra, 25°C, SC4-14 Spindle @ SR 20 in cP	As tested
Hegman Gauge	≤50 μm
Surface Resistivity	< 0.800 Ω/square/mil
Total % NV Solids	66.00 - 70.00%
Ratio AG to AGCL	50:50

Application Guidelines

AGCL-1134 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 redisperse 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, yellow 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.

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.



Drying

Drying is <4 minutes at 130°C, depending upon oven heat profile, air flow, humidity and print thickness.

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.

Evaluate the point-to-point resistance along one of the 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.

Cleanup

Use Solvent 10 or appropriate screen cleaner for cleaning screens. For other solvent

recommendations for cleaning or thinning, contact Kayaku Advanced Materials. 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.

Storage and Shelf Life

Shelf life is 6 months in unopened container, if stored in a dry area at 25°C (room temperature). Do not use product after the expiration date.

Disposal

The material and its container must be disposed in accordance with all local, state, federal and/or international regulations.

Handling

Consult Safety Data Sheet (SDS) for details on the handling procedures and product hazards prior to use. If you have any questions regarding handling precautions or product hazard, please email productsafety@kayakuAM.com.

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