



CI-1028

Fast Dry Conductive Silver Ink for Polyester Film-based Membrane Touch Switch Applications

DESCRIPTION **CI-1028** is silver conductive ink designed to dry quickly to a low and stable resistance yet with long screen residence time. The main uses of **CI-1028** are for membrane touch switches, sensor electrodes and similar applications. **CI-1028** adheres to a wide spectrum of substrates including print treated and non-print treated polyester and polyimide flex circuits. **CI-1028** is high solids for fine-line printing and low line resistance.

- ADVANTAGES**
- ✓ Excellent adhesion
 - ✓ Extended screen residence
 - ✓ Abrasion resistant
 - ✓ Fast curing
 - ✓ Fine-line printing

TYPICAL UNCURED PROPERTIES	Color	Silver
	Viscosity	12,000 CPS 30°C #6 spindle 20rpm
	Solids Content	74.6%
	Density	21.3 lbs/gallon (2.56 kg/l)
	Flash Point	212°F (100°C) Tag Closed Cup
	VOC	635.5 grams of solvent/liter

TYPICAL CURED PROPERTIES	Electrical Resistance	< 0.020 ohms/square @ 1.0 mil
		< 0.020 ohms/square @ 25.4 microns
	Theoretical Coverage	622.3 ft ² /Gal/Mil
		6.00 m ² /kilogram/25.4 microns

APPLICATION INFORMATION

- Target 0.0004” (10µm) dry film thickness (range 9-17 µm per application requirements).
- Screen recommendations:
 - Polyester mesh 173 – 280 threads/in (68-110T/cm)
 - Stainless mesh 230 – 381 threads/in (90-150T/cm)
 - Emulsion 0.0004 – 0.0016” (10-40 µm)
 - Solvent resistant, ≥5µm EOM, direct or capillary
 - Screen tension ≥ 25 N/cm
- Current screen trends offer higher mesh counts with greater % open, high tension and emulsion options to deliver finer lines at thicker deposits.
- Squeegee: solvent resistant, high durometer (70-80), sharp edge.
- Ink preconditioning: gently hand stir with a spatula for 1-2 minutes, and ensure that the ink has reached room temperature. This conditions the viscosity to that seen during screen action. DO NOT use a high velocity / high shear mixer which can induce air bubbles or damage rheology.

CURE SCHEDULE

CI-1028 does not require any leveling time and can be forced cured immediately after printing. Typical forced curing is for less than 10 minutes at 200°F (93°C). Various time temperature combinations can be used.

Complete cure can be confirmed by re-curing the print a second time and testing the electrical resistance. The electrical resistance should not decrease by more than 10%. If the resistance does decrease more than 10% increase oven temperature or decrease belt speed. Higher temperatures and longer durations will improve flexibility, adhesion and conductivity properties.

CLEAN UP

CI-1028 can be cleaned up with M.E.K (Methyl Ethyl Ketone) or a blend of solvents that will completely clean a cured film. Screens and printing tools should be allowed to dry completely before reuse.

STORAGE AND HANDLING

- Shelf life is 6 months, unopened container, stored below 50°F (10°C).
- Store product below 50°F (10°C) for maximum shelf life and minimal solvent loss. Avoid high temperature exposure.

HEALTH AND SAFETY

- Use with adequate ventilation.
- Avoid skin contact.
- If ingested, consult a physician immediately.
- Consult the product Material Safety Data Sheet for additional information.

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