



17 Hampshire Drive, Unit 8
Hudson, NH 03051

www.conductivecompounds.com
Innovative Chemistry For High-Tech Applications

Phone: (603) 595-6221
Fax: (603) 595-6228

C-774
CARBON FILLED ELECTRICALLY CONDUCTIVE
SCREEN PRINTABLE INK/COATING

C-774 is a unique electrically conductive carbon filled ink designed for use on polyester, polyimide and polycarbonate substrates. C-774 also has excellent adhesion to most metal surfaces. C-774 is designed for screen printing in flex and additive circuit applications such as membrane switches, medical sensors and heaters. C-774 is tough, scuff resistant and has excellent crease resistance.

C-774 is designed to give a fast drying time with a low temperature oven. Conductive Compounds, Inc. can adjust the rheology of C-774 to allow for more open time, or quicker drying, in order to accommodate different screening and drying operations. It is suitable for screen printing traces and discreet resistance pads, and as an overprint for silver conductive traces that are printed on a polycarbonate substrate.

TYPICAL PROPERTIES

Appearance	Thixotropic Black Colored Paste
Viscosity	
Brookfield #5 spindle, 2 rpm	> 80,000 cps
Brookfield #5 spindle, 20 rpm	> 20,000 cps
Thixotropic Ratio	4.0
Drying Schedule Reference	
140° C	4 minutes
100° C	10 minutes
90° C	15 minutes
80° C	20 minutes
<i>(May Be Longer Or Shorter Depending Upon Heat Source And Air Flow)</i>	
Shelf Life	6 Months In Unopened Container
Total % NV Solids	32% +/- 2%
Hegman Gage	<50.0 μ
Surface Resistivity	30 Ω/Square

Conductive Compounds, Inc. offers custom formulating to tailor this material to your application.

MORE INFORMATION ON REVERSE SIDE OF SHEET

NOTE: 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.

C-774
CARBON FILLED ELECTRICALLY CONDUCTIVE
SCREEN PRINTABLE INK/COATING

APPLICATION GUIDELINES

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. Always mix ink thoroughly before using, as carbon will settle to the bottom.

For cleanup, use butyl cellosolve acetate or dibasic ester solvents. If faster drying time or thinning 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 can customize the rheology of C-774 to conform to the process parameters. We are also available to provide on-site technical assistance to resolve your processing issues. Call us to discuss your application in more detail.

NOTE: 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.