

Metalon® Conductive Inks for Printed Electronics

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Metalon® CI-005

Copper Inkjet Ink for TCO, ITO & Glass Substrates

Product Overview

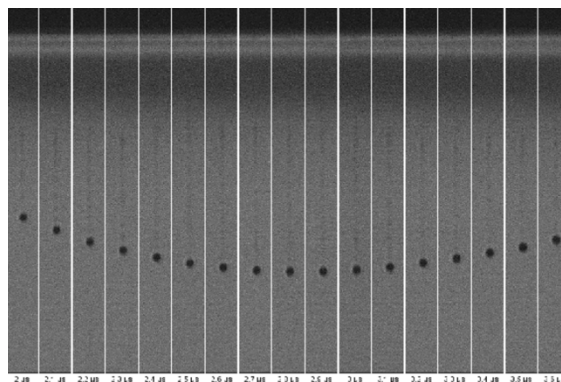
CI-005 is a nanosized metallic copper formulation, dispersed in a polymeric matrix suitable for high resolution inkjet printing. CI-005 is formulated to provide excellent conductivity and adhesion with glass, ITO & TCO coated glass. CI-005 can be used in a variety of printing equipment and can deliver drop sizes as low as 4 picolitres.

Applications

CI-005 ink is designed to be compatible with glass and coated glass to fabricate electronic circuitry common in rigid printed circuits. Applications include: touch screen, display, photovoltaic, and sensors & antennas.

General Use, Storage and Shelf Life

The product should be kept sealed in its container and stored at room temperature (<25°C). The shelf life of unopened containers is six months from date of shipment.



On pulse width in microseconds vs. velocity for CI-005 in a KM512SHX print head.

Before use, please ensure that the ink is mixed thoroughly for a few minutes taking care to avoid introducing air to the ink. Filter the ink ($\leq 5 \mu\text{m}$ glass microfibre or nylon) prior to filling up the reservoir.

Safety and Handling

For safety and handling information, please refer to the Material Safety Data Sheet (MSDS).

Typical Compositional Properties	Solids Content (Weight %)	26
	Viscosity [cP] (Brookfield DVE @ 10 rpm, 20°C)	~ 13
	Surface Tension [mN/m] (Static)	30
	Density [g/ml]	1.27
Typical Electrical & Physical Properties (Sintered)	Bulk Resistivity [$\mu\Omega\text{-cm}$]	~ 9
	Adhesion (ASTM D3359)	5B



Contact us today to learn more.

For detailed application information or additional assistance: inktechnicalsupport@novacentrix.com
Ink can be ordered at store.novacentrix.com



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Processing	Printing Equipment	Industrial ink jet print heads such as: Dimatix Sapphire, Konica Minolta KM512, Dimatix DMP2850 – 10 pL
	Line Resolution	As low as 50 μm @ 900 DPI <i>(Depending on deposition equipment and DPI)</i>
	Line Thickness/Height <i>(sintered)</i>	~ 500 nm <i>(Depending on drop volume)</i>
	Substrates	Soda lime glass, borosilicate glass, ITO & TCO coated glass
	Clean up solvent	Acetone, isopropanol
	Surface Preparation	Clean & dry, no grease or contaminants <i>(Plasma treatment can also be used)</i>
	Typical Drying Conditions	Can be dried in standard convection ovens and vacuum ovens @ 60°C, 30 – 60 minutes, or
		IR dryer @ 80°C, 15 minutes, or
		Forced air convection @ 80°C, 5 – 10 minutes
	Typical Sintering Conditions	Laser sintering 808 nm – 1064 nm, or
	Reducing atmosphere of argon or nitrogen, with 3% formic acid vapor @ 250°C for 60 minutes dwell time	
Shipping and Packaging	Standard sample order is 100g or multiples of 100g. Bulk packaging is also available.	



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