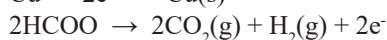
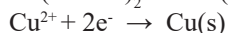


CCI-330I

Copper Complex Ink

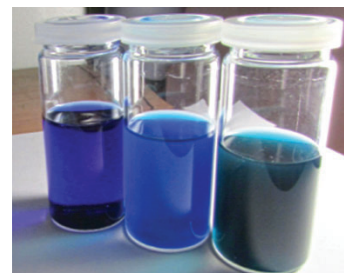
Product Description

CCI330I is specially formulated for ink jet printing to meet the demand of printed electronics and is also a good replacement for “Pd-free” seed used in the electroless plating process. CCI330I makes PCB manufacturing process simple and low cost.



Key Features:

- Stable copper complex ink formulation which ensure that oxidation is kept to the minimum, these enhances shelf life, and printed circuitry performance and reliability.
- Ink that can be sintered at low temperatures and/or through various methods.
- Simple manufacturing process allowing for a shorter lead time, and reduction in manufacturing cost.
- No liquid waste and waste water severely affect the environment.

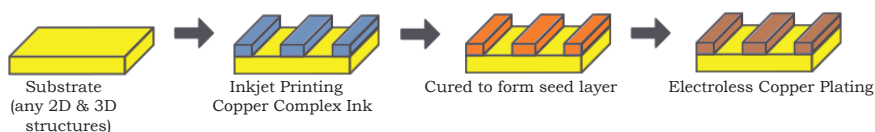


Copper Complex Ink

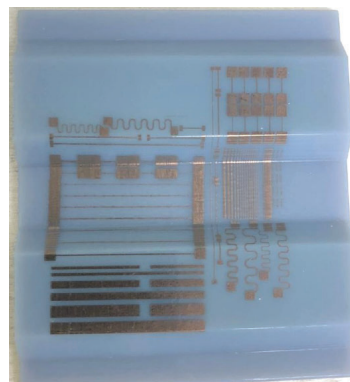
Application

CCI330I is suitable with many 2D and 3D structures including PI, PEN, PET, etc and ability to cure under both plasma and thermal cure (Inert) environment.

Process Flow:



Sample of circuit printed by inkjet printer



Sample of circuit printed on 3D object and cured to form Seed Layer, before undergo Electroless Plating

Characteristics

Specification	Characteristics	Remarks
Appearance	Blue color liquid	Visual
Texture	Slightly viscous	-
Curing condition	150°C for 30mins	Under Nitrogen / Ar
Sheet Resistivity	N.A	seed layer for EP

Printing Conditions - for Copper complex Inkjek ink (~6.5%wt%)

Printing:

Printhead temperature: 45°C

Printer hotplate: 60°C

Pattern DPI: 600 (also depending on substrate).

Printing frequency: 1khz

Number of printing layers:

- a. If the goal is to form seed layer for electroless plating process: 2 layers
- b. If the goal is to form as is conductive pattern: 5-15 layers (depending on conductance goal)

Thermal Decomposition instructions:

- a. place the sample inside the cylinder tube, and flush it with nitrogen/argon for 10 min.
- b. Heat the printed patterns at 140°C or above (depending on substrate type, e.g. PET -140°C, PEN – up to 170°C , Kapton – up to 230°C), for 30 minutes under nitrogen (99.99% or higher) / argon.
- c. Take out the cylinder tube to cool down while keeping the nitrogen/argon flow for 10 min.
- d. Take out the sample.

Plasma decomposition instructions:

Optional plasma gases:

Nitrogen

Argon

Hydrogen

Base pressure (pressure to start purging the gas): below 0.6 mbar.

Working chamber pressure: below 0.3 mbar

Plasma power: 160-200 Watt

Plasma duration: 8-10 min.

Note: decomposition of copper complex generates gases that have to be evacuated.

Recommended Thinning Solvents

Viscosity of CCI-330I could be adjusted using Solvent 330I.

Storage and Shelf Life

Generally shelf life of CCI-330I is 6 months from the date of manufacturing if kept under tightly capped bottle and stored in proper condition and temperature of 25°C ± 3°C

DISCLAIMER OF LIABILITY

"All statements, information and recommendations contained in this catalog are based on data and test results which we consider, to the best of our knowledge and belief, to be reliable and informative to the users but the accuracy and completeness thereof is not guaranteed. No warranty, expressed or implied, statutory or otherwise, is given regarding the use of the information and products contained in this catalog since the conditions and suitability for use, handlings, storage or possession of the products are determined by the users and are therefore beyond our control. We shall not be liable in respect of any liabilities, losses (including consequential losses), damages, proceedings, costs, claims or injuries whatsoever sustained or suffered by the users (including any third parties) in connection with the use of the information, recommendation and the products contained in this catalog."

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