**PrintCB CI-004 Technical Data Sheet (TDS)**

**Two-part Copper Ink for Micro Dispensing Applications**

**Product Description**

PrintCB CopPair is a two-part copper ink comprising a metallic mixture (*MetalX*) and active paste (*ActiveX*) ready for mixing, used for printing of circuitry and traces by means of micro-dispensing.

**Product Benefits**

- Excellent dispensing properties
- Sinters in air using standard curing equipment (forced-air, IR etc.)
- Fit for printing on various plastic substrates (PET, PA, PEN, Epoxy, glass etc.)
- Solder-able

- **Preparation**: for every 3.5 gr. of metal mixture add 1 gr. active paste. Mix till a uniform paste is obtained. Fill syringe and start using.
- **Pot life**: once mixed, the ink is best consumed within 1-2 days.
- **Dispensing**: use nozzles with an inner diameter of 150 microns or larger to avoid clogging.
- **Curing process in forced-air conveyor/box oven**: 5 minutes at 150°C

* curing profile is system configuration dependent and should be optimized locally

- **Average particle size**: 7 microns
- **Minimum layer thickness**: 20 microns
- **Clean-up**:
  - Cleaning of ink: mixture of 1:1 mixture of IPA and Water
  - Cleaning of nozzle: rinse in IPA
### Typical physical properties**

<table>
<thead>
<tr>
<th>Test</th>
<th>Properties</th>
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</thead>
<tbody>
<tr>
<td>Sheet resistivity</td>
<td>$30 \pm 15% \text{ m}\Omega/\text{sq./mil}$</td>
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<tr>
<td>Resistivity after flex (360°, 5mm radius, 1 cycle)</td>
<td>outward/inward flex: -20%</td>
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<tr>
<td>Adhesion: Cross Hatch Tape Test (tested using 3M Scotch Tape 250)</td>
<td>4B</td>
</tr>
<tr>
<td>Solder-ability</td>
<td>Use Bismuth-Tin low temperature solder pastes</td>
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</tbody>
</table>

**tested on Dupont Melinex ST 504 PET film.

### Composition properties:

- **Viscosity**: \(~100,000\text{cP}\)
- **Storage**: keep sealed, in dry cool environment (refrigeration not required).