

Product Description

Dycotec DM-CUP-5100 nanocopper paste is designed for rotary and flat-bed screen printing for versatile use in electronic applications. The paste is designed to be rapidly cured using Xenon flash and laser systems.

Product Benefits

- Excellent electrical conductivity
- Good adhesion
- Compatibility with a broad range of light based sintering techniques

Paste Preparation

Gently stir the paste before use to ensure the product is well mixed. Be careful not to introduce air bubbles. Do not replace used ink in the container. This ink is designed for screen printing processes. Once printed, the paste should be dried at 60-80°C.

Properties of the Uncured Paste

| Test | Properties |
|---|---|
| Solids | 68-72% |
| Viscosity (50 s ⁻¹ , cone & plate) | 5-10 Pa.s at 25°C |
| Thinner | For slight adjustments in viscosity use DM-CUP-5100S-DT |
| Substrate compatibility | Polyimide |
| Typical Print Thickness | 4-5 µm |
| Coverage | 210 cm ² /g at 10 µm final print thickness |

Paste Processing Conditions

| Test | Typical Properties |
|-----------------|-----------------------------|
| Screen | 460 PET mesh, 3 µm emulsion |
| Squeegee Type | 80A Shore |
| Line/Space (µm) | 100/100 |
| Print Speed | 25 mm/s |

Clean-Up

Equipment can be cleaned using benzyl alcohol or IPA

Paste Curing Conditions

It is recommended that printed structures should be laser or flash lamp processed shortly after drying.

| Test | Properties |
|-----------------------------------|---|
| Sintering Technique Compatibility | Flash lamp, Laser (>800nm, ~4 J/cm ² as guidance only) |

Properties of the Cured Paste

| Test | Properties |
|--------------------|----------------------------|
| Adhesion | 4B for PI |
| Volume Resistivity | <20 μΩ.cm |
| Resistivity | <12 mΩ/□/mil for polyimide |

Storage and Shelf-life

Containers should be stored in a fridge with lids tightly sealed. We cannot assume responsibility for an ink that has not been stored in appropriate conditions or where the ink has been contaminated following use. Please ensure the paste is removed from the fridge and left to stand to ensure paste temperature is greater than 15°C prior to use.

Safety and Handling

For safe use of this product, please review relevant material and safety datasheet (MSDS).

For more information, please contact:

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All information reported in the datasheet is for experimental work undertaken in our laboratories and illustrates typical values only. Processing conditions may vary depending on customers' experience and their application requirements and manufacturing process equipment set-up.

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