DM-SIP-1006

DYCOTEC MATERIALS

Product Description

DM-SIP-1006 is part of the Dycotec Materials product portfolio developed specifically for In-Mold Electronics (IME) applications. It is a solvent based screen printable conductive ink used to produce highly electrically conductive structures used in multilayer circuit designs. The paste is compatible with thermoforming processes and overmolding temperatures.

Product Benefits

- Good thermoformable characteristics for In-Mold Electronics (IME) use
- Excellent printability
- Excellent electrical conductivity (15 mΩ/□/25µm)
- Compatible with Dycotec Materials IME dielectric and conductive adhesive pastes

Paste Preparation

DM-SIP-1006 is a thermoplastic silver paste system. Once the paste has been removed from the container for printing, this may introduce contamination. Please do not replace the paste in the container. The paste should be gently stirred before use avoiding incorporation of air bubbles.

Properties of Uncured Paste

Test	Properties
Viscosity after mixing (Pa.s) (Cone and plate $50s^{-1}$, 20°C)	6 - 10
Density	2.2 g/cm^3
Colour	Silver
Thinner	DM-SIP-1006-DT
Solids Content	65-70 %

Paste Processing Conditions

Parameter	Typical Properties
Substrate	Polycarbonate
Screen	280SS, 10 µm EOM or 325SS, 13 µm EOM
Print speed	100 - 400 mm/s
Squeegee type	80A Shore
Print Resolution	250 µm (line and gap)
Coverage	156 cm^2/g (10 µm thickness)

The paste can be dried using either a convection oven or using IR heating. Typical drying parameters used are 80°C followed by 120-130°C for 5-20 mins. Drying times may be reduced to achieve the optimum resistivity depending on manufacturing process set-up.

Properties of Cured Paste

Test	Typical Properties
Sheet Resistance	10 mΩ/□/20µm
Elongation	30%
Adhesion (ASTM D3359)	5B, no removal
Environmental (85°C/85%RH,1000hrs)	No increase in sheet resistance

Clean-Up

Equipment can be cleaned using benzyl alcohol followed by iso-propanol, wipe dry.

Storage and shelf-life

Containers should be stored in a fridge at a temperature between 4-7˚C with lids tightly sealed. The paste shelf-life for an unopened container is 3 months from date of shipment. Please ensure the material has time to reach room temperature before use. Avoid introduction of water into the paste. Dycotec Materials cannot assume responsibility for a paste that has not been stored in appropriate conditions or where the pastes have been contaminated following use.

Safety and Handling

For safe use of this product, please review relevant material safety and 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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