DM-CAP-4321S

DYCOTEC MATERIALS

Product Description

DM-CAP-4321S is a single part screen printable carbon paste for general electronic application use. The paste should be cured at low temperature (140˚C) to achieve a sheet resistance of <100 Ω/□/25µm ±10%. It a thermoset product that provides good hardness (3H) and can be used for flexible printed electronic applications including use on PET substrates.

Product Benefits

- Thermoset product providing excellent durability and good hardness (3H)
- Low temperature curing for use on flexible low temperature substrates such as PET

Paste Preparation

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

Properties of Uncured Paste

Test	Properties
Viscosity (Cone-plate $50s^{-1}$, 25°C)	10 - 20 Pa·s
Thinner	This should normally not be required. If necessary, use DM-DIL-0206DT for slight adjustments in viscosity.
Solids Content	55-65% (140˚C, 60 min, convection oven)

Paste Processing Conditions

Parameter	Typical Properties
Substrate	PET (ST-505), FR4
Screen	Stainless steel, 180 mesh/inch, 13µm emulsion
Flood Speed	70 mm/s
Print Speed	70 mm/s
Squeegee hardness	80 Durometer Shore A
Squeegee pressure	8 kg (220 mm squeegee length)
Cured thickness	19-21 µm
Print gap	1.5 mm

Guideline curing parameters are minimum 140˚C for 30 – 60 in a well ventilated convection oven.

Properties of Cured Paste

Test	Typical Properties
Thickness	19 – 21 µm
Sheet Resistance	<100 Ω/□/25µm ±10%
Adhesion (ASTM D3363)	5B (PET)
Pencil hardness scale (ASTM D3359-02)	3H

Clean-Up

Equipment can be cleaned using IPA or benzyl alcohol

Storage and shelf-life

Containers should be stored at fridge temperature (4 – 8˚C) with lids tightly sealed. The paste shelf-life for an unopened container is 6 months from date of shipment. The material should not be stored at temperature below 0˚C. 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

This product is designed for use in an industrial environment by trained personnel. For safe use of this product, please review relevant material safety and datasheet (SDS).

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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