

Product Description

Dycotec Materials DM-CAP-1060S is a screen printable carbon paste that is used in stretchable applications including In Mold Electronics (IME) and wearable applications. For flat bed screen printing using either manual or automatic equipment.

Product Benefits

- Low temperature curing temperature (80-140°C)
- Stretchable and compatible with a wide variety of substrates
- Excellent electrical conductivity ($<22 \Omega/\square/25\mu\text{m}$)
- Compatible with Dycotec Materials IME conductive pastes (DM-SIP-1005)

Paste Preparation

DM-CAP-1060S is a thermoplastic carbon 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 the Uncured Paste

Test	Properties
Viscosity after mixing (Pa.s) (Cone and plate 50s ⁻¹ , 20°C)	5 - 10
Screen residence time	>1 hour
Thinner	For slight adjustments in viscosity, use DM-CAP-1060S-DT
Coverage	105 cm ² /g at 10 μm
Density	0.93 g/cm
Solids Content	27-33 % (vacuum oven, 80°C, 30 mins)

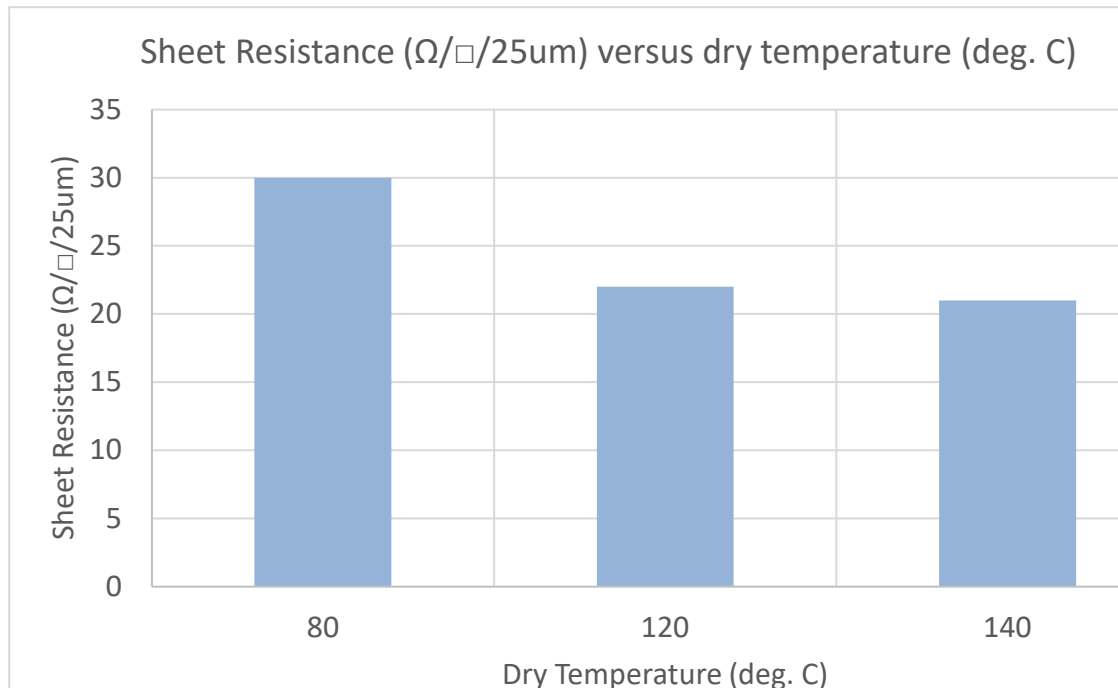
Paste Processing Conditions

Parameter	Typical Properties
Substrate	TPU, polycarbonate, PET
Screen	325 (50/30) SS, 13 μm emulsion
Print speed	70 mm/s
Squeegee type	80A Shore

Pastes should be dried, before curing, at 80-140°C for 5-30 mins to remove solvents in an IR or convection oven. Drying and curing times may be reduced to achieve the optimum resistivity depending on manufacturing process set-up. Line/space resolution of 250 μm can be achieved depending on print set-up.

Properties of the Cured Paste

Test	Properties
Sheet Resistance	$<22 \Omega/\square/25\mu\text{m}$ (140°C)
Line/Space Resolution (μm)	250/250
Adhesion	5B
Typical print thickness	4 μm (325SS (50/30) 13 μm emulsion)



Encapsulation Layers

Please contact Dycotec Materials regarding suitable stretchable encapsulating layers for your application.

Clean-Up

Equipment can be cleaned using benzyl alcohol then wipe dry with isopropanol.

Storage and Shelf-life

For optimum results, the containers should be stored at 10 to 25°C with lids tightly sealed. The paste shelf-life for an unopened container is 6 months from date of shipment. 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:

Dycotec Materials Ltd
Unit 6, Stainer Road
Porte Marsh Industrial Estate
Calne, Wiltshire
SN11 9PX UK
Email: info@dycotecmaterials.com
Tel: +44 (0)1793 422596
www.dycotecmaterials.com

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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