

Product Description

Dycotec DM-SIJ-3200 is a nanosilver ink-jet printable ink that is used for printed electronics applications such as sensors, heaters and solar cell. The ink offers excellent electrical conductivity at low curing temperatures (100°C) on PET and glass substrates.

Product Benefits

- Excellent electrical conductivity ($<6 \text{ m}\Omega/\square/25\mu\text{m}$)
- Low temperature sintering (100°C)
- Excellent adhesion

Ink Preparation

Product may sediment over time. Gently stir before use. Avoid incorporating air bubbles. Once printed, the Ink should be dried at 60-80°C for 20 mins prior to curing.

Properties of Uncured Ink

Test	Properties
Viscosity after mixing (cP) (Cone and plate 500s ⁻¹ , 25°C)	10-18
Thinner	For slight adjustments in viscosity, use DM-SIJ-3200-DT
Surface Tension (mN/m)	31-32
Solids Content	37-40 %

Ink Processing Conditions

Parameter	Typical Properties
Substrate	PET, glass
Deposition Method	Ink-Jet, tested on 30 pL Spectra SE, 90-130 V, 25-35°C

The ink can be dried using either a convection oven or using IR heating. Typical drying parameters used are 60-80°C for 20 mins. Drying times may be reduced to achieve the optimum resistivity depending on manufacturing process set-up. The ink should then be sintered in a temperature range from 100-140°C.

Properties of Cured Ink

Test	Typical Properties
Sheet Resistance	<6 m Ω /□/25 μ m at 100-140°C
Volume Resistivity	<15 $\mu\Omega$.cm at 100-140°C
Adhesion	5B
Typical Dry Film Thickness	1-2 μ m depending on print deposition set-up

Clean-Up

Equipment can be conditioned or cleaned using propylene glycol methyl ether acetate. Alcohols such as IPA should not be used.

Storage and shelf-life

Containers should be stored in a cool location at a storage temperature between 10-25°C with lids tightly sealed. The ink 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 an ink that has not been stored in appropriate conditions or where the ink 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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