

## Product Description

DM-SYP-3028AT is a syringe printable high viscosity silver ink that is used for PDLC (Polymer Dispersed Liquid Crystals) smart glass and general printed electronics applications. The ink is compatible with glass and transparent conductive coated glass substrates.

## Product Benefits

- Low temperature and rapid drying
- Excellent adhesion on TCO coated substrates
- Excellent electrical conductivity
- Deposition using syringe

## Paste Preparation

DM-SYP-3028AT is a thermoplastic silver based ink system and can be deposited directly from syringe. Please ensure the material has time to reach room temperature before use.

## Properties of Uncured Paste

Test	Properties
Viscosity after mixing (Pa.s) (Cone and plate 50s <sup>-1</sup> , 20°C)	8-13
Thinner	For slight adjustments in viscosity, use DM-SYP-3028-DT
Density	2.0 - 2.2 g/cm <sup>3</sup>
Solids Content	80 - 85 %

## Paste Processing Conditions

Parameter	Typical Properties
Substrate	TCO-coated glass, glass
Deposition Method	Syringe

The paste can be dried using either a convection oven or using IR heating. Typical drying parameters used are (i) 100°C for 30 mins (ii) 140°C for 20 mins. Drying times may be reduced to achieve the optimum resistivity depending on manufacturing process set-up including rapid in-line thermal cure using IR or laser heating.

## Properties of Cured Paste

Test	Typical Properties
Sheet Resistance	<15mΩ/□/25μm (100°C), <15 mΩ/□/25μm (140°C)
Volume Resistivity	<37.5 μΩ.cm(100°C), <25 μΩ.cm(140°C)
Adhesion (ASTM 3359)	5B
Damp Heat Test (85°C/85%RH)	No material removal after 1000 hrs after tape test

## Clean-Up

Equipment can be cleaned using alcohols such as PGMEA (propylene glycol methyl ether acetate), Isopropanol alcohol, EGBE (ethylene glycol monobutyl ether) and PMA (Methoxy Propyl Acetate)

## Storage and shelf-life

Containers should be stored in a fridge at a storage temperature between 4-7°C with lids tightly sealed. The paste shelf-life for an unopened container is 12 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, SN1 19PX, UK  
Email: [Info@dycotecmaterials.com](mailto:Info@dycotecmaterials.com)  
Tel: +44 (0)1793 422598  
[www.dycotecmaterials.com](http://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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