

Product Description

Dycotec DM-SIP-3102S is a nanosilver based screen printable paste that is used for fine line print resolution (<50 µm) in applications such as solar cell. The paste is compatible with PET, glass and transparent conductive coated glass/PET substrates.

Product Benefits

- High coverage
- Low temperature sintering temperature
- Fine line print resolution
- Excellent electrical conductivity
- Deposition using syringe or screen printed

Paste Preparation

DM-SIP-3102S is a single part nanosilver based paste system. The paste should be gently stirred before use avoiding incorporation of air bubbles. Any paste removed from its container should be used within 6 hours to ensure consistent deposition. After 6 hours quality cannot be guaranteed. Once the paste has been removed from the container for printing, this may introduce contamination. Please do not replace the paste in the container.

Properties of Uncured Paste

Test	Properties
Viscosity after mixing (Pa.s) (Cone and plate 50s ⁻¹ , 20°C)	10 - 18
Thinner	For slight adjustments in viscosity, use DM-SIP-3102-DT
Coverage	290 cm ² /g
Solids Content	65 - 69 %

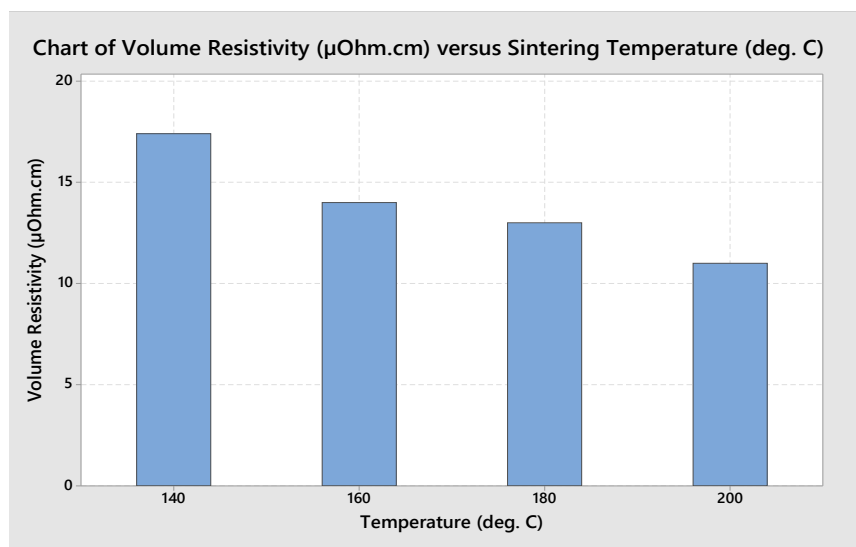
Paste Processing Conditions

Parameter	Typical Properties
Substrate	TCO-coated glass, glass
Screen	420 polyester, 20 µm emulsion
Flood speed	30-70 mm/s
Print speed	30-70 mm/s
Squeegee type	80A Shore

The paste can be dried using either a convection oven or using IR heating. Typical drying parameters used are 140°C for 20 mins. Drying times may be reduced to achieve the optimum resistivity depending on manufacturing process set-up. Typical print thickness after drying is 2-3 µm.

Properties of Cured Paste

Test	Typical Properties
Sheet Resistance	<7 mΩ/□/mil at 140°C
Volume Resistivity	<18 μΩ.cm at 140°C
Adhesion	5B
Resolution (L/S)	<50 μm depending on print deposition set-up



Clean-Up

Equipment can be cleaned using alcohols such as iso-propanol.

Storage and shelf-life

Containers should be stored in a fridge (4°C) with lids tightly sealed. The paste shelf-life for an unopened container is 6 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:

Dycotec Materials Ltd
Unit 12, Star West
Westmead Industrial Estate
Swindon, Wiltshire UK
Email: Info@dycotecmaterials.com
Tel: +44 (0)1793 422598
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.

Note: The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, Dycotec Materials specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale of use of Dycotec Material's products. Dycotec Materials specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits. The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Dycotec Material patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one of or more UK or foreign patents or patent applications.