

Product Description

DM-SAS-10030 is a single part syringe dispensable silver conductive adhesive paste that provides excellent adhesion for applications that require assembly joint flexibility. The paste can be used on flexible low temperature substrates such as textiles, TPU and PET for applications such as wearable devices, sensors, IME (In-Mold Electronics) and medical devices. Excellent print resolution ensures the paste is well suited for fine pitch components. The adhesive maintains flexibility when fully cured, minimising the stress concentrations that can lead to assembly joint failure.

Product Benefits

- Low temperature curing temperature (120°C)
- Excellent adhesion ~50 Kg/cm² (1206 LED)
- Excellent electrical conductivity (<250 mΩ/□/25μm)
- In-Mold Electronics (IME) compatible
- Flexible assembly joint minimising stress that can lead to device failure

Paste Preparation

Please allow the material to reach room temperature before use. DM-SAS-10030 is supplied as a single part, silver paste, ready to use directly from syringe. Packaging options for manual (DM-SAS-10030-SYP) and automatic dispense (DM-SAS-10030-SY) are available.

Properties of Uncured Paste

| Test | Properties |
|-----------------------------------------------------------------------------|-------------------------------------------------|
| Viscosity after mixing (Pa.s) (Cone and plate 1.5s ⁻¹ , 25°C) | >130 |
| Density | 2.64 - 2.68 g/cm |
| Conductive Filler Type | Silver |
| Solids Content | 83 - 89 % (Vacuum oven dry at 80°C for 30 mins) |

Paste Processing Conditions

| Parameter | Typical Properties |
|-------------------|---------------------------------|
| Substrate | Textiles, TPU, PET, PC, tin |
| Deposition Method | Pressure-Time Dispense |
| Nozzle | Smallest nozzle tested 25 Gauge |

Pastes should be cured at 120°C for 30 mins to remove solvents in an IR or convection oven. Curing times may be reduced to achieve the optimum resistivity depending on manufacturing process set-up.

The paste is compatible with a broad range of Dycotec conductive silver products, please email info@dycotecmaterials.com for further information.

Properties of Cured Paste

| Test | Typical Properties |
|-----------------------------------------|------------------------------------|
| Sheet Resistance | <250 mΩ/□/25 μm (120°C) |
| Volume Resistance | <6 x 10 ⁻⁴ Ω.cm |
| Maximum Long Term Operating Temperature | 85°C |
| Die Shear Strength | ~50 Kg/ cm ² (1206 LED) |

Durability

| Test | Typical Properties |
|--------------------------------------------|-----------------------|
| HALT (85°C/85% Relative Humidity, 1000hrs) | No change in adhesion |

Clean-Up

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

Storage and shelf-life

For optimum results, the syringes should be stored in a fridge (4-7°C) horizontally. 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).

Packaging

Available for manual use with automatic syringe dispense (DM-SAS-10030-SY) or manual syringe (DM-SAS-10030-SYP).

For more information, please contact:

Dycotec Materials Ltd
Unit 6, Stanier Road
Porte Marsh Industrial Estate
Calne, Wiltshire, SN119PX, 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.