DM-SIP-14005S

DYCOTEC MATERIALS

Product Description

DM-SIP-14005S is a RoHS compliant mixed bonded solderable silver cermet paste. It is designed to be fired at low temperatures (550-700°C) and provides good adhesion to substrates such as float glass, enamel coatings and ceramics.

Product Benefits

- Good solderability with SAC and Sn95/Ag5 solderpaste systems
- Excellent fired density on alumina
- Customised blends available proving a wide range of electrical resistance at different silver loading (%)
- RoHS compliant

Paste Preparation

Bring paste up to Clean room temperature (20-25°C) by storing in the print area at least 2 hours prior to printing. Before use, the paste should be thoroughly but gently stirred with a spatula avoiding incorporation of air bubbles. Thinning of the paste is not recommended but for slight adjustments in viscosity, DM-DIL-0208 may be carefully used.

Properties of Paste

Test	Properties
Viscosity after mixing (Brookfield, Spindle RV-7, 10 rpm, 25.5°C)	190-250 Pa·s
Solids Content	80.5 ± 1.0%
Silver Content	76.5 ± 0.75%
Thinner	For slight adjustments in viscosity use DM-DIL-0208
Coverage	Approx 100-120 cm^2/g @12.5 µm

Paste Printing Conditions

Parameter	Typical Properties
Substrate	96% alumina, glass, enamel
Screen	325 SS, 25 µm emulsion
Flood/Print speed	70-150 mm/s
Squeegee Hardness	80A shore

Paste Processing Conditions

Parameter	Typical Properties
Levelling Time	Allow 5 mins before drying
Drying Temperature	140°C
Drying Time	10-15 mins
Firing Temperature	550-700°C peak temperature. Dwell time at peak:10 mins
Total Firing Time	40-60 mins

It is of paramount importance that the air supply to the furnace is clean and dry and free of any contaminants such as oil.

Properties of Fired Paste

Test	Typical Properties
Substrate for Calibration	Low-iron float glass
Sheet Resistance	<3 mΩ/□ (for 12.5µm fired thickness)
Fired print thickness	10-15 µm
Print Resolution	125 µm Line/ 125 µm Space
Solderability	Excellent (SAC 0307, ROM0 flux, 5s dip at 260°C)
Leach Resistance	1 dip (SAC 0307, ROM0 flux, 5s dip, 260°C)
Adhesion	>35N (90° wire pull, 2 mm x 2 mm pad, SAC 305, ROL1 flux)
Aged Adhesion (48 hours at 150°C)	>30N (90° wire pull, 2 mm x 2 mm pad, SAC 305, ROL1 flux)

Alternative blends are available to provide a wide range of electrical resistance at different silver content (%). Please contact info@dycotecmaterials.com for further information.

Storage and shelf-life

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 safety datasheet (SDS).

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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