DM-SIP-14001S

DYCOTEC MATERIALS

Product Description

DM-SIP-14001S is a RoHS compliant mixed bonded solderable silver cermet paste. It gives a smooth dense fired layer on alumina and because of its wide firing range it can be used on other substrates like glass, circuits on steel eg heaters and certain ceramics. Typical applications include terminations for chip resistors, potentiometers and heaters.

Product Benefits

- Good solderability with SAC and Sn95/Ag5 solderpaste systems
- Excellent fired density on alumina
- Compatible with DM-INS-14100 dielectric
- 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-INS-14100-DT 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	80-82%
Thinner	For slight adjustments in viscosity use DM-INS-14001-DT
Coverage	Approx 100-120 cm^2/g @12.5 µm

Paste Printing Conditions

Parameter	Typical Properties
Substrate	96% alumina, glass, PES, ceramics, DM-INS-14100*
Screen	325 SS, 25 µm emulsion
Flood/Print speed	70-150 mm/s
Squeegee type	80A shore

*Please contact info@dycotecmaterials.com for product information

Paste Processing Conditions

Parameter	Typical Properties
Levelling Time	Allow 5 mins before drying
Drying Temperature	140˚C
Drying Time	10-15 mins on alumina
Firing Temperature	850°C peak temperature. Dwell time at peak:10 mins
Heat Ramp Rate	>50°C/min
Cooling Rate	>50°C/min
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	96% alumina
Sheet Resistance	<3 mΩ/sqr (for 12.5µm fired thickness)
Fired print thickness	10-15 µm
Print Resolution	175 µm Line/ 175 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	>25N (90° wire pull, 2 mm x 2 mm pad, SAC 305, ROL1 flux)
Aged Adhesion (48 hours at 150°C)	>20N (90° wire pull, 2 mm x 2 mm pad, SAC 305, ROL1 flux)

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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