DM-RES-14405S

DYCOTEC MATERIALS

Product Description

DM-RES-14405S is an RoHS compliant low cost silver-palladium (2.0 %) resistor paste intended to be used as heating elements on ceramics and dielectric coated steel substrates.

Product Benefits

- Controlled Temperature Coefficient of Resistance (TCR) suitable for heater use, 1500 ± 100 ppm/°C
- Compatible with DM-SIP-14001 for end terminations and Dycotec insulator dielectric pastes such as DM-INS-14100
- Controlled sheet resistance of 500 ± 50 mΩ/sqr (at 12.5µm fired thickness)
- 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-0208DT 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	71-73%
Thinner	For slight adjustments in viscosity use DM-DIL-0208DT
Coverage	Approx 80 cm^2/g @20 µm

Paste Printing Conditions

Parameter	Typical Properties
Substrate	96% alumina, dielectric coated steel
Screen	250 SS, 5 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 5-10 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	DM-INS-14100 coated 430 stainless steel
Sheet Resistance	500 ± 50 mΩ/sqr (at 12.5µm fired thickness)
Dried print thickness	20 µm
TCR	1500 ± 100 ppm/°C

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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