

Product Description

DM-RES-14201 is an RoHS compliant cost effective silver resistor paste 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
- Compatible with DM-SIP-14001 for end terminations
- Compatible with Dycotec insulator dielectric pastes such as DM-INS-14100
- 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-RES-14201-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	77-83%
Thinner	For slight adjustments in viscosity use DM-RES-14201-DT
Coverage	Approx 80 cm ² /g @20 µm

Paste Printing Conditions

Parameter	Typical Properties
Substrate	96% alumina,dielectric coated steel
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 5-10 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	100 ± 10 mΩ/sqr (at 20µm fired thickness)
Dried print thickness	20 µm
TCR	3300 ± 50 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:

Dycotec Materials Ltd
Unit 6, Stainer 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.

Copyright© 2022

Revision: 1.00
Date: May-2022