

Technical Data Sheet

THICK FILM MATERIALS

Product Type: Dielectrics

Product Name: SD 1010A



Dielectric Paste for Chromium Steel

Description

SD 1010A is a lead free, screen printable 850 °C firing glaze for insulating Cr-steel. It was especially developed for steel of following types:

| German Standard | DIN Type | UK / US |
|-----------------|--------------|----------|
| 1.4016 | X6Cr17 | AISI 430 |
| 1.4521 | X2CrMoTi18-2 | AISI 444 |

Key Benefits

- It fires to an extremely dense, hermetic film, allowing excellent electrical performance at a total fired film thickness of $\geq 70 \mu\text{m}$
- Excellent compatibility with HERAEUS heating tracks and with the conductor termination down the overglaze SD 1019
- Free of lead, cadmium and nickel
- Free of phthalate
- REACH³ and ROHS⁴ compliant

Processing

- 1) Spatulate well prior to processing.

When stored in a refrigerator allow paste to come to room temperature prior to opening, to avoid condensation.
- 2) Print through 165 – 325 mesh stainless steel screen. A print-dry fire sequence is advised for each layer.
- 3) Let the print settle at room temperature for 3 – 10 minutes.
- 4) Dry at 150 °C for 10 minutes.
- 5) Fire at 850 °C (peak) for 10 – 12 minutes, and with a total firing cycle time of approx. 60 minutes.

Thinner

HVS 507

Typical Properties (Paste)

| | |
|------------|--|
| Form | Pseudoplastic paste |
| Viscosity | 15 – 30 Pas (23 °C, D = 33/s) |
| Shelf Life | 3 months from date of shipment with correct storage (in a dry, cool (5 – 25 °C) and dark place with container tightly shut). |

Typical Properties (Fired)¹

| | |
|--------------------------------|----------------|
| Breakdown Voltage ² | > 1500 V (AC) |
| Colour | Permanent blue |

Compatibility

| | |
|------------------------------------|--------------------------------|
| Heating Tracks | SR 21-350-025 SR 21-350-100 |
| Termination (of Heating Tracks) | SC 1001 (AgPt) |
| Overglaze | SD 1019 |

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Legend:

1) Typical properties based on laboratory test methods. For optimum results all materials should be fired in a profiled furnace supplied with dried, hydrocarbon and other contaminant free air (PP-1).

2) 70 µm fired film thickness; 3 separately fired layers on Cr steel (X6Cr17). It was measured after printing with a 165 µm mesh stainless steel screen. Total screen thickness was approx. 100 µm, and 150µm incl. emulsion.

3) REACH compliant according to the latest ** Annex XIV to Regulation (EC) of the European Parliament and of the council on the Registration, Evaluation, Authorisation and Restriction of Chemicals ("REACH") by European Chemicals Agency and its subsequent amendments; the material does not contain any substance listed in Annex XIV.

4) RoHS compliant according to the latest ** Directives (European Union) of Restriction of Hazardous Substances ("RoHS") and its subsequent amendments (including the exceptions related to Pb)

* See the data sheet issue date (DD/MM/YY) as reference of validity of latest edition which is available on request

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