

Technical Data Sheet

THICK FILM MATERIALS

Product Type: Conductors

Product Name: C 5020



Gold Conductor Paste

Description

C 5020 is an unfritted lead, nickel and cadmium free gold conductor. It is designed for application on top of a gold based layer to increase thickness and solderability.

In a single print and fire application on a gold base layer it yields a thick, dense film that is free from blisters, cracks, and other cosmetic defects.

C 5020 has good adhesion when printed over a gold base layer of Heraeus Au conductors. It is not designed to be used without a gold base layer.

Key Benefits

- Excellent choice for higher conductivity applications that require thick gold conductor
- Free of lead, cadmium and nickel
- REACH³ and ROHS⁴ compliant

Processing

- 1) Spatulate well prior to processing.

When stored in a fridge: The paste should have acquired room temperature before being opened, to avoid condensation.

- 2) Print through a 200 – 325 mesh stainless steel screen.
- 3) Level at room temperature for 10 minutes.
- 4) Dry at 125 – 150 °C for 10 – 20 minutes.
- 5) Fire at 550 – 950 °C (peak) for 10 minutes, and with a total firing cycle time of c. 30 – 60 minutes.

Thinner

HVS 100

Typical Properties (Paste)

| | |
|----------------|---|
| Form | Pseudoplastic paste |
| Viscosity | 35 – 55 Pas (25 °C, D = 75/s) |
| Printing Speed | Up to at least 10 cm/s |
| Coverage | Approx. 50 cm ² /g (FFT: 8 µm) |
| Shelf Life | 6 months from date of shipment with correct storage (in a dry, cool (5 to 25 °C) and dark place with container tightly shut). |

Typical Properties (Fired)¹

| | |
|---|------------------------|
| Fired Film Thickness ² (FFT) | 6 – 10 µm |
| Line Definition | ≥ 100 µm |
| Resistivity ² | ≤ 4.5 mΩ/□ (FFT: 8 µm) |

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Legend:

1) Typical property 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) Measured after printing with a 325 mesh steel screen; screen thickness and emulsion thickness combined was c. 75 µm, and the resultant printed track was 500 µm wide.

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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