

Technical Data Sheet

THICK FILM MATERIALS

Product Type: Conductors

Product Name: C2220



Silver / Palladium Conductor Paste / DPIS*
* Development Product Information Sheet

Description

C2220 is a lead free 2.1 : 1 Ag / Pd conductor paste which exhibits high density, high reliability and good fine line definition.

It fires to a smooth surface and is mechanically durable and chemically resistant. Due to these characteristic C2220 is a recommended material for application such as fuel sensors.

Key Benefits

- Excellent conductivity, leach resistance and resistance to silver migration
- Free of lead, cadmium, nickel and phthalate
- REACH³ and ROHS⁴ compliant

Processing

- 1) Spatulate well prior to processing.

When stored in a refrigerator, the paste should have acquired room temperature before being opened, to avoid condensation.

- 2) Print through a 325 mesh stainless steel screen. Total thickness: approx. 75 µm.
- 3) Level at room temperature for 5 – 10 minutes.
- 4) Dry at 150 °C for 10 – 20 minutes.
- 5) Fire at 850 °C (peak) for 10 minutes, and with a total firing cycle time of c. 30 – 60 minutes.

Thinner

HVS 507

Typical Properties (Paste)

Form	Pseudoplastic paste
Viscosity	30 – 50 Pas (25 °C, D = 100/s)
Solids	84.5 % ± 1.5 %
Printing Speed	Up to 20 cm/s
Shelf Life	6 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

Fired Film Thickness ² (FFT)	8.0 – 12.0 µm
Line Definition	≥ 125 µm
Resistivity ²	≤ 50 mΩ/□ (FFT: 12 µm)
Aged Adhesion (Sn96/Ag3.5/Cu0.5)	≥ 20 N (48 hrs, 150 °C)
Leach Resistance (Sn96/Ag3.5/Cu0.5)	≥ 4 dips (245 °C, 5 sec each)

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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) 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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