

Technical Data Sheet

THICK FILM MATERIALS

Product Type: Conductors

Product Name: C 5819



Gold Conductor Paste

Description

C 5819 is a screen printable lead and cadmium free gold conductor, containing a mixed bonded Au formulation for Au and Al wire bonding.

Key Benefits

- Suitable for fine line printing
- Excellent Au and Al wire bondability and contact resistivity properties
- Free of lead, cadmium, nickel and phthalate
- REACH⁴ and ROHS⁵ 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 200 – 325 mesh stainless steel screen.
- 3) Level at room temperature for 10 – 15 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 252

Typical Properties (Pastes)

Form	Pseudoplastic paste
Viscosity	15 – 55 Pas (25 °C, D = 75/s)
Solids	88.0 % ± 1.5 %
Printing Speed	Up to at least 10 cm/s
Coverage	c. 53 cm ² /g (FFT: 12 µm)
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)	6 – 11 µm
Line Definition	≥ 100 / 100 (width / space)
Resistivity ²	≤ 6.5 mΩ/□ (FFT: 10 µm)
Al Wire Bondability ³	
32 µm AlSi Wire	Initial > 45 cN
150 µm Al Wire	Initial > 250 cN
Au Wire Bondability ³	
30 µm Au Wire	Initial > 50 cN
60 µm Au Wire	Initial > 150 cN

Note: Bond shear test made on alumina

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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; thickness of screen and emulsion combined was c. 75 µm, and the resultant printed track was 500 µm wide.
- 3) Au wire bonded with a Hughes TSB 460 in Heraeus' labs; other values may depend on various parameters e.g. the bonder, the bonding speed, the wire, the loop lengths, employed etc.
- 4) 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.
- 5) 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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