

Technical Data Sheet

THICK FILM MATERIALS

Product Type: Conductors

Product Name: C4741



Silver / Platinum (54:1) Conductor Paste

Description

C4741 is a lead free Silver / Platinum conductor with 1.5 % Platinum in the wet paste. It is a new member of HERAEUS' line of lead free conductors with excellent fired film density, high conductivity and good solder leach resistance for applications at elevated temperatures.

Key Benefits

- Excellent leach resistance
- Excellent initial and aged adhesion
- High conductivity
- Excellent fired film density
- Free of lead, cadmium and nickel

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. Total thickness: 50 – 110 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 – 12 minutes, and with a total firing cycle time of c. 30 – 60 minutes.

Thinner

HVS 100

Typical Properties (Pastes)

Form	Pseudoplastic paste
Viscosity	20 – 40 Pas (25 °C, D = 100/s)
Solids	82.3 % ± 1.5 %
Printing Speed	Up to 20 cm/s
Coverage	c. 80 cm ² /g (FFT: 12 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 Thickn. (FFT) ²	10 – 15 µm
Resistivity ²	≤ 5.0 mΩ/□ (FFT: 12 µm)
Line Definition	≥ 125 µm (200 mesh screen)
Solderability (Sn96/Ag3.5/Cu0.5)	Good ≥ 95 % (245 °C, 5 sec dip) (assessment acc. DIN 41850-2E)
Adhesion, Aged (Sn96/Ag3.5/Cu0.5)	≥ 20 N (48 hrs, 150 °C)
Leach Resistance ² (Sn96/Ag3.5/Cu0.5)	≥ 4 dips (245 °C, 5 sec each)

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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 on alumina 96% after printing with a 200 mesh stainless steel screen; thickness of screen and emulsion combined was c. 100 µm, and the resultant printed track was 500 µm wide.

Heraeus Electronics
Heraeus Deutschland GmbH & Co. KG
Heraeusstraße 12 – 14
63450 Hanau, Germany
www.heraeus-electronics.com

Americas
Phone +1 610 825 6050
electronics.americas@heraeus.com

China
Phone +86 53 5815 9601
electronics.china@heraeus.com

Asia Pacific
Phone +65 6571 7649
electronics.apac@heraeus.com

Europe, Middle East and Africa
Phone +49 6181 35 4370
electronics.emea@heraeus.com