

## Technical Data Sheet

### THICK FILM MATERIALS

Product Type: Conductors

Product Name: C5809



#### Gold Conductor Paste

##### Description

C5809 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 area printing
- Excellent Au and Al wire bondability and contact resistivity properties
- Excellent compatibility with fired MnNiFe-Ferrite- and MnNiAl-Ferrite-Bodies
- Free of lead, cadmium, nickel and phthalate

##### 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	50 – 120 Pas (25 °C, D = 75/s)
Solids	87.0 % ± 1.5 %
Printing Speed	Up to at least 10 cm/s
Coverage	c. 51 cm <sup>2</sup> /g (FFT: c.10 µm)
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)<sup>1</sup>

Fired Film Thickness <sup>2</sup> (FFT)	8 – 12 µm
Resistivity <sup>2</sup>	≤ 5.5 mΩ/□ (FFT: 12 µm)
Al Wire Bondability <sup>3</sup>	
32 µm AlSi Wire	Initial > 45 cN
150 µm Al Wire	Initial > 250 cN
Au Wire Bondability <sup>3</sup>	
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 200 mesh steel screen; thickness of screen and emulsion combined was c. 100  $\mu\text{m}$ , and the resultant printed track was 500  $\mu\text{m}$  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.

\* 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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