

## Conductors

### C 2040

#### Silver / Palladium Conductor Paste

##### Description

C 2040 is a screen printable 4.0 : 1 Ag/Pd paste and general purpose fired conductor material, suitable for a wide variety of applications, where excellent performance is called for. It is also ideal for use as a resistor termination.

##### Key Benefits

- Excellent solderability and leach resistance
- Solderable on alumina and HERAEUS dielectrics
- Compatible with HERAEUS resistors and dielectrics
- Excellent initial and aged adhesion, even after multiple firings on alumina and when fired on dielectrics
- Free of nickel and cadmium
- REACH<sup>3</sup> and RoHS<sup>4</sup> 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 5 – 10 minutes.
4. Dry at 125 – 150°C for 10 – 15 minutes.
5. Fire at 850°C (peak) for 10 minutes, and with a total firing cycle time of c. 30 – 60 minutes.

**Thinner**

HVS 100

##### Typical Properties (Paste)

Form:	Thixotropic paste
Viscosity:	30 – 50 Pas (25°C, D = 100 s <sup>-1</sup> )
Solids:	78.0 % ± 1.5 %
Printing Speed:	Up to at least 20 cm / s
Coverage:	c. 80 cm <sup>2</sup> / g (FFT: 12 µm)
Shelf Life:	12 months from date of shipment with correct storage (in a dry, cool (2 to 23°C) and dark place with container tightly shut)

##### Typical Properties (Fired)<sup>1</sup>

Fired Film Thickness <sup>2</sup> : (FFT)	12.0 – 15.5 µm
Line Definition:	≥ 125 µm
Resistivity <sup>2</sup> :	≤ 40 mΩ / □ (FFT: 12 µm)
Solderability: (62Sn / 36Pb / 2Ag)	Excellent ≥ 95% (235°C, 5s dip) (assessment acc. DIN 41850-2E)
Adhesion, aged: (62Sn / 36Pb / 2Ag)	≥ 18 N (1 x 850°C, 48hrs. / 150°C)
Leach Resistance: (62Sn / 36Pb / 2Ag)	≥ 5 dips (235°C, 10s each)

##### Compatibility

Dielectrics:	IP 9117 Series
Resistors:	R 8900 / D Series

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- 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 µm, and the resultant printed track was 500 µm wide.
- 3 REACH compliant according to the Commission Regulation (EU) No 143/2011 of 17 February 2011 amending Annex XIV to Regulation (EC) No 1907/2006 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; we define a material as REACH compliant, as long as substances used are not recorded in the Annex XIV.
- 4 RoHS compliant according to the Directives (European Union) No 2011/65/EC of Restriction of Hazardous Substances ("RoHS") and its subsequent amendments (including the exceptions No. 7.c. 1 of the EU Directive e.g. related to Pb)

The descriptions and engineering data shown here have been compiled by Heraeus using commonly-accepted procedures, in conjunction with modern testing equipment, and have been compiled as according to the latest factual knowledge in our possession. The information was up-to date on the date this document was printed (latest versions can always be supplied upon request). Although the data is considered accurate, we cannot guarantee accuracy, the results obtained from its use, or any patent infringement resulting from its use (unless this is contractually and explicitly agreed in writing, in advance). The data is supplied on the condition that the user shall conduct tests to determine materials suitability for a particular application.

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