

Conductors

C 3657

Platinum Conductor Paste

Description

C 3657 is a screen printable fritted platinum conductor, which possesses a good conductivity. It is particularly useful for the manufacture of O₂ sensors.

Key Benefits

- Chemically resistant
- Can be used on alumina, zirconia or other bodies
- Free of cadmium and nickel
- REACH³ and RoHS⁴ 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 10 minutes.
4. Dry at 150 – 180°C for 10 – 20 minutes.
5. Fire at 850°C – 950°C (peak) for 10 minutes, and with a total firing cycle time of c. 30 – 60 minutes (the higher the temperature, the denser the surface produced and the better its adhesion).

Typical Properties (Paste)

Form:	Thixotropic paste
Viscosity:	30 – 45 Pas (25°C, D = 100 s ⁻¹)
Solids:	67.5 % ± 2.5 %
Printing Speed:	Up to at least 10 cm / s
Shelf Life:	6 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)¹

Fired Film Thickness ² : (FFT)	c. 5 µm
Resistivity ² :	60 – 90 mΩ/□ (FFT: 5 µm)
Fired Film Density:	> 90 %

Thinner

HVS 100

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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 325 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. I 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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