

## Conductors

### C 2210 (LPA 509-229)



#### Palladium Alloy Conductor Paste

##### Description

C 2210 (LPA 509-229) is a lead free 0.8 : 1 Ag / Pd pre-alloyed conductor paste which exhibits a high density, high reliability and remarkable fine line resolution.

C 2210 (LPA 509-229) has an enriched Pd content to address increased demands by low sulfur fuel applications. Due its high densification during sintering the surface of this alloy is very smooth and greatly reduces risk of silver migration.

##### Key Benefits

- Excellent conductivity, leach resistance and resistance to silver migration
- Exceptional chemical and physical wear resistance in use as a track material for sliders
- Low cost alternative to gold in stringent fuel sensor application
- Free of lead, cadmium and nickel
- 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 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 100

##### Typical Properties (Pastes)

Form:	Thixotropic paste
Viscosity:	25 - 45 Pas (25 °C, D = 100 s <sup>-1</sup> )
Solids:	82.5 % ± 1.5 %
Printing Speed:	Up to 20 cm / s
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)<sup>1</sup>

Fired Film Thickness <sup>2</sup> : (FFT)	8.5 - 12.0 µm
Line Definition:	≥ 125 µm
Resistivity <sup>2</sup> :	≤ 130 mΩ / □ (FFT: 12 µm)
Aged Adhesion: (62Sn / 36Pb / 2Ag)	≥ 20 N (16 hrs, 25 °C)
Leach Resistance:	Not available

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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; screen thickness and emulsion thickness combined was c. 75 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; the product does not contain any substance listed in 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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