

Conductors

TC 7302



(LPA 95-20) Ag Conductor Paste for LTCC / DPIS*

* Development Product Information Sheet

Description

TC 7302 is a pure Ag top conductor which provides excellent compatibility with Heraeus tape series of CT 700 and CT 800 during the co-firing process.

Key Benefits

- TC 7302 is optimized for screen printing of conductor tracks.
- The paste is may readily be used to print fine line patterns.
- After firing, the paste can easily be soldered.
- Free of lead, cadmium and nickel
- Free of phthalate
- REACH⁴ and RoHS⁵ compliant

Processing

1. Spatulate well prior to processing. The paste should have acquired room temperature before being opened, to avoid condensation.
2. Print trough a 200 – 325 mesh stainless steel screen.
3. Level at room temperature for 5 – 10 minutes.
4. Dry at max. 80°C for 10 – 30 minutes.
5. Fire at 850 – 865°C (peak) for up to 30 minutes, and with a total firing cycle time up to 12 hours (is often most practicable in a box oven).

Typical Properties (Paste)

Form:	Thixotropic paste
Viscosity:	45 – 70 Pas (25 °C, D = 75 s ⁻¹)
Solids:	85.0 % ± 1.0 %
Shelf Life:	12 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 Thickness ² : (FFT)	10.0 – 16.0 µm (up to 25 µm, if required)
Resistivity ² :	≤ 3.5 mΩ / □ (FFT: 12 µm)
Line Definition ³ :	≥ 150 µm

Compatibility

Tapes:	CT 700 Series CT 800 Series
Conductors:	TC 7301A (via, 92.5 wt. % Ag) TC 7304A (via, 90.0 wt. % Ag)

Thinner

HVS 507

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- 1 Typical properties 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 on alumina 96% with a 325 mesh stainless steel screen; screen thickness and emulsion thickness combined was c. 75 µm, and the resultant printed track was 500 µm wide.
- 3 Measured on 13" x 13" prints with 325 mesh stainless steel screen; screen thickness and emulsion thickness combined was c. 75 µm
- 4 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.
- 5 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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