Heraeus

Technical Data Sheet

THICK FILM MATERIALS

Product Type: Conductors

Product Name: C8830

Low Temperature Silver Conductor Paste / DPIS*

* Development Product Information Sheet

Description

C8830 (LPA414-068) is a lead-free, low temperature and screen printable silver conductor. It exhibits excellent solderability on a wide range of glass substrates with or without coating such as ITO[3] and FTO[3].

Key Benefits

- Excellent printability
- Excellent solderability and leach resistance
- Very good conductivity
- Free of lead, cadmium and nickel
- RoHS[4] and REACH[5] compliant

Processing

1) Spatulate well prior to processing. When stored in a refrigerator, allow paste to come to room temperature prior to opening, to avoid condensation.
2) Print through a 200 – 400 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 420 – 650°C (peak) for 2 – 20 minutes, and with a total firing cycle time of c. 30 – 60 minutes.

   Compensate lower firing temperature with longer dwell time at peak. The firing cycle will depend on glass substrate used.

Thinner

HVS 100

Typical Properties

Viscosity C 8830	25 – 40 Pas (25 °C, D = 75/s)
Solids C 8830	77.0 % ± 1.5 %
Printing Speed	Up to 20 cm/s
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)[1]

Fired Film Thickness[2] C 8830[2]	8 – 13 µm (200 mesh screen, 30 µm emulsion)
Resistivity[2]	< 5.5 mΩ/□ (FFT: 10 µm)

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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 on Alumina after printing with a 200 mesh steel screen; with emulsion thickness of 30 µm at a 500 µm wide conductor track, fired at 600°C – 2 minutes peak time – 30 minutes total firing cycle.

[3] ITO: Indium-Tin-Oxide; FTO: Fluorine-Doped Tin Oxide

[4] RoHS compliant according to the latest * Directives (European Union) of Restriction of Hazardous Substances ("RoHS") and its subsequent amendments (including the exceptions related to Pb)

[5] REACH compliant according to the latest * Annex XIV to Regulation (EC) 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 material does not contain any substance listed in Annex XIV.

* See the data sheet issue date (DD/MM/YY) as reference

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