

## 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) and C8830A (LPA414-175) are lead free, low temperature and screen printable pure silver conductor. They exhibit excellent solder ability on a wide range of glass substrates with or without coating such as ITO<sup>3</sup> and FTO<sup>3</sup>.

#### Key Benefits

- Excellent printability
- Excellent solder ability and leach resistance
- Very good conductivity
- Free of lead, cadmium, nickel and phthalates

#### 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 10 – 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 (Pastes)

Form	Pseudoplastic paste especially for large area printing for line printing
C 8830	
C 8830A	

Viscosity	25 – 40 Pas
C 8830	(25 °C, D = 75/s)
C 8830A	40 – 55 Pas
	(25 °C, D = 100/s)

Solids	
C 8830	77.0 % ± 1.5 %
C 8830A	79.5 % ± 1.5 %

Printing Speed	Up to 20 cm/s
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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).
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#### Typical Properties (Fired)<sup>1</sup>

Fired Film Thickness <sup>2</sup>	
C 8830 <sup>2</sup>	6 – 10 µm
C 8830A	8 – 13 µm
	(200 mesh screen, 30 µm emulsion)
C 8830A line definition <sup>2</sup>	≥ 150 µm (width and space)
Resistivity <sup>2</sup>	≤ 4.5 mΩ/□ (FFT: 10 µm)
Solderability (Sn96/Ag3.5/Cu0.5)	Good ≥ 95 % (245 °C, 5s dip) (assessment acc. DIN 41850-2 E)
Leach Resistance <sup>2</sup> (Sn96/Ag3.5/Cu0.5)	≥ 3 dips (245 °C, 5 s each)

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#### Legend:

<sup>1)</sup> 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).

<sup>2)</sup> Measured on glass slide 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.

<sup>3)</sup> ITO: Indium-Tin-Oxide; FTO: Fluorine-Doped Tin Oxide

\* See the data sheet issue date (DD/MM/YY) as reference of validity of latest edition which is available on request

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