DuPont LF131

SILVER CONDUCTOR

Technical Data Sheet

Product Description

DuPont LF131 silver conductor composition is intended to be applied to ceramic substrates by screen printing and firing in a conveyor furnace in an air (oxidizing) atmosphere. It has been developed to form interconnection tracks and pads for component and lead attachment, in hybrid microcircuits and networks.

Product Benefits

- Excellent fine line resolution
- Lead, cadmium and nickel free*
- Excellent solderability with SnPb, SnAg and SAC solders.
- Excellent green-strength
- Compatible, sequentially or co-fired, with DuPont LF151 dielectric as a crossover or inner layer conductor

*Cadmium, lead and nickel "free" as used herein means that these are not intentionally added to the referenced product. Trace amounts however may be present.

Processing Conditions

Printing

200 - 325 mesh stainless steel, 0.3 - 0.5 mil emulsion. Print speeds up to 20 cm/s.

Drying

Allow prints to level for 5 - 10 minutes at room temperature, then dry for 10 - 15 minutes at 150ºC.

Firing

850ºC peak held for 10 minutes on 30 minutes cycle in air (oxidizing) atmosphere.

Typical Composition Properties

Test	Properties
Viscosity (Pa.s) Brookfield HBT, UC&SP @10 rpm, 25°C]	83 - 145
Thinner	4553

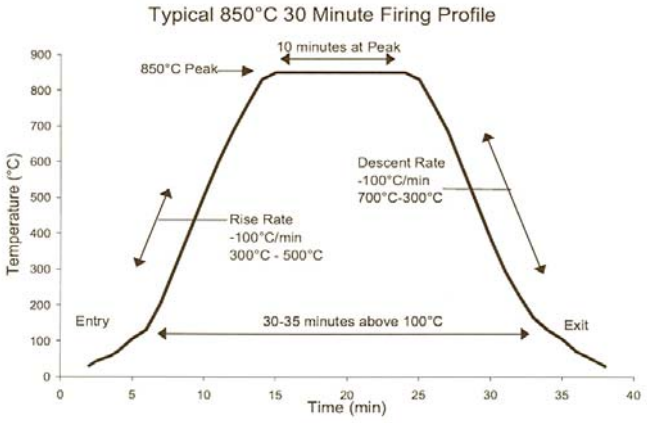
Typical Fired Properties

Shrinkage (dried to fired) [%]	56 - 62
Mean fired thickness: (using 200 mesh) [µm]	13 - 19, typical 16µm
Coverage @ 16µm fired (cm²/g)	67 - 72
Resistivity (mΩ/sq @ 16µm)	< 2.0
Soldered Adhesion[1] Initial (N) Aged (1000hrs@ 150ºC)[N]	 > 20 ≥ 18

[1] 90º wire peel test on 2mm x 2mm pad soldered with 95.5Sn/3.8Ag/0.7Cu Solder using mildly activated flux, Alpha 611 on both Alumina. DuPont LF131 is recommended for use on dielectric only for crossover and inner layer applications

This table shows anticipated typical physical properties for DuPont LF131 based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

Typical 30-minutes fire profile



Storage and Shelf Life

Containers should be stored, tightly sealed, in a clean, stable environment at room temperature (<25°C). Shelf life of material in unopened containers is six months from date of shipment. Some settling of solids may occur and compositions should be thoroughly mixed prior to use.

Safety and Handling

For Safety and Handling information pertaining to this product, read the Material Safety Data Sheet (MSDS).

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