

Technical Data Sheet

Low Temperature Co-fired Ceramic Systems L8 LTCC Ag Conductor System

Application

Ferro's co-fireable Ag conductors are engineered to provide high reliability performance with L8 LTCC packaging applications.

Ferro's LTCC Ag conductors are formulated and processed to be RoHS compliant.

Typical Formulation Properties

Line Resolution: 5 mil (125µm) lines and spaces

Storage and Shelf-life: These products should be stored in tightly sealed containers at 10-25°C, in a dry place away from direct sunlight. Shelf life of a factory seal container is minimum 6 months from date of shipment when properly stored.

Typical Process Parameters

Thinning: These pastes are formulated at the appropriate viscosity for the intended application. Contact Technical Service for recommended thinner to replace solvent loss.

Printing: A 280-325 mesh stainless steel screen with 12 to 25 µm emulsion thickness.

Leveling: 5 minutes at room temperature.

Drying: 10 minutes at 70°C with forced air flow and exhaust.

Firing: 825°C for 15minutes at Peak Temperature.

Refer to Ferro's LTCC Design Guide for specific ramp rates, air exchange information, cooling rates provided and other processing parameters.

Typical Performance Characteristics

| Product | | CN33-498 | CN33-493 | CN33-495 | CN39-001 |
|--------------------------------|-------|--------------------|----------|-------------------|--------------------|
| Composition Family | | Ag | Ag | Ag | AuPtAg |
| Application | | Internal Conductor | Via | Surface Plateable | Surface Solderable |
| Viscosity ¹ | Pa.s | 102 ± 22 | 90 ± 20 | 92 ± 30 | 190 ± 40 |
| Metal Content | % | 75 | 75 | 70 | 72 |
| Fired Thickness | µm | 14-18 | 14-18 | 14-18 | 14-18 |
| Resistivity ² | mΩ/sq | < 2.0 | - | < 2.0 | < 50 |
| Wirebond Strength ³ | grams | - | - | - | - |
| Solderability ⁴ | % | - | - | - | > 95 |
| Leach ⁴ | % | - | - | - | < 10 |
| Initial Adhesion ⁵ | N | - | - | - | > 13 |

¹ Brookfield HBT viscometer typically with an SC4-14 spindle

² Per sq. @25 µm

³ CN30-025JH tested w/ 1 mil wire CN30-080M tested w/2 mil wire

⁴ 230 ± 5°C; 60Sn-40Pb-2Ag; 185 flux;

⁵ Peel on 80 x 80 mil pads



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