

Technical Data Sheet

Low Temperature Co-fired Ceramic Systems L8 LTCC Mixed Metal Conductor System

Application

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

Ferro's LTCC mixed metal 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: 825C for 30 minutes at Peak Temperature. Specific ramp rates, air exchange information, cooling rates provided and other processing parameters can be found in Ferro's LTCC Design Guide.

Typical Performance Properties

Product		CN33-498	CN33-493	CN39-005	CN30-080M	CN36-020
Composition Family		Ag	Ag	AuPtAg	Au	AuPtPd
Application		Internal Conductor	Via	Transition Via	Surface Wirebondable	Surface Solderable
Viscosity ¹	Pa.s	102 ± 22	90 ± 20	115 ± 25	130 ± 20	190 ± 40
Metal Content	%	75	75	90.1	70	72
Fired Thickness	µm	14-18	14-18	14-18	14-18	14-18
Resistivity ²	mΩ/sq	< 2.0	-	-	< 2.2	< 50
Wirebond Strength ³	grams	-	-	-	> 35	-
Solderability ⁴	%	-	-	-	-	> 95
Leach ⁴	%	-	-	-	-	< 10
Initial Adhesion ⁵	N	-	-	-	-	> 13



Limitation of Warranty and Liability

Ferro believes that the information contained in this document is accurate at the time of its publication. Ferro makes no warranty with respect to the information contained in this document. The information in this document is not a product specification, either in whole or in part. Your use of the information contained in this document and your purchase and use of this Ferro product are at your sole discretion. Downstream users are responsible for determination of the suitability of this product and for testing in specific applications. Nothing in this document shall be construed as a license for use that infringes upon any property rights of any third party. Please refer to the Safety Data Sheet (SDS) for safe use, handling and disposal information. All sales by Ferro to you are subject to Ferro's Terms and Conditions of Sale, as amended from time to time and available at www.ferro.com. In the event this document conflicts with Ferro's Terms and Conditions of Sale, Ferro's Terms and Conditions of Sale shall control.

¹ Brookfield HBT viscometer typically with an SC4-14 spindle

² Per sq. @ 25.4 µm

³ 2 mil wire

⁴ 230 ± 5°C; 60Sn-40Pb-2Ag; 185 flux;

⁵ Peel on 80 x 80 mil pads