Low Temperature Co-fired Ceramic Systems
CN31-014/CN31-017 Solderable PtAu LTCC Conductor System

Application
CN31-014/CN31-017 Pt Au system is designed as a two-part post fireable PtAu conductor series for Ferro’s A6M/A6M-E LTCC Tape Systems. CN31-014 acts as an adhesion layer while CN31-017 provides a solderable surface layer with excellent solder wetting and leach resistance with Sn60 type solders. CN31-014/CN31-017 PtAu conductors are formulated and processed to be RoHS compliant.

Typical Formulation Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>CN31-014</th>
<th>CN31-017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity</td>
<td>95 ± 15 Pa.s</td>
<td>130 ± 20 Pa.s</td>
</tr>
<tr>
<td>PtAu Content</td>
<td>74.3 %</td>
<td>80.8 %</td>
</tr>
</tbody>
</table>

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 sealed 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 a recommended thinner to replace solvent loss.
- **Printing:** CN31-014 and CN31-017 are printed and dried sequentially with 325 mesh stainless steel screen with 12 µm emulsion thickness.
- **Leveling:** 5 minutes at room temperature
- **Drying:** 10-15 minutes at 100-120°C with forced air flow and exhaust.
- **Firing:** 850 °C for 10 minutes at Peak Temperature with an overall profile of 45 minutes.
- **Film Thickness:** 20-25 µm
- **Resistivity:** < 50 mΩ/sq/mil
- **Solderability:** < 3 seconds
- **Leach Resistance:** < 7 seconds
- **Initial Adhesion:** > 22 N

1Brookfield HBT viscometer typically with a SC4-14 spindle
2Dip seconds to reach >95% coverage @ 230 °C; 60Sn-40Pb
3Immersion time to < 80% wetting @ 230 °C
4Peel on 80 x 80 mil pads

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.