CERMET GOLD CONDUCTOR

8881-B

ESL 8881-B is a thin printing fritless (MICRO-LOK®) gold paste designed for use on 96% alumina substrates, or with 4905-C dielectric to give high coverage. The fired film exhibits strong adhesion to both bare alumina and 4905-C dielectric and may be easily etched using KI/I₂ solutions. Fired films of 8881-B are very dense with no center line depression and gives excellent line definition. 8881-B exhibits excellent wire bondability is a mixed-bonded, high conductivity gold material for use on alumina.

PASTE DATA

RHEOLOGY: Thixotropic, screen printable paste
VISCOSITY:
(Brookfield HBT, SC4-14 spindle, 10 rpm, 25.5°C±0.5°C) 250±25 Pa·s
BONDING MECHANISM: MICRO-LOK®
SHELF LIFE: (at 20°C) 6 months

PROCESSING

SCREEN MESH / EMULSION: 325/25 µm
LEVELING TIME: (at 20°C) 5-10 minutes
DRYING AT 125°C: 10-15 minutes

See Caution and Disclaimer on other side.
CAUTION: Proper industrial safety precautions should be exercised in using these products. Use with adequate ventilation. Avoid prolonged contact with skin or inhalation of any vapors emitted during use or heating of these compositions. The use of safety eye goggles, gloves or hand protection creams is recommended. Wash hands or skin thoroughly with soap and water after using these products. Do not eat or smoke in areas where these materials are used. Refer to appropriate MSDS sheet.

DISCLAIMER: The product information and recommendations contained herein are based on data obtained by tests we believe to be accurate, but the accuracy and completeness thereof is not guaranteed. No warranty is expressed or implied regarding the accuracy of these data, the results obtained from the use hereof, or that any such use will not infringe any patent. Electro-Science assumes no liability for any injury, loss, or damage, direct or consequential arising out of its use by others. This information is furnished upon the condition that the person receiving it shall make their own tests to determine the suitability thereof for their particular use, before using it. User assumes all risk and liability whatsoever in connection with their intended use. Electro-Science’s only obligation shall be to replace such quantity of the product proved defective.

FIRING TEMPERATURE:

**OPTIMUM:**
850°C

**TIME AT PEAK:**
10 minutes

**RATE OF ASCENT / DESCENT:**
60°C-100°C/minutes

**SUBSTRATE FOR CALIBRATION:**
96% alumina

**THINNER:**
ESL 413

TYPICAL PROPERTIES

**FIRED THICKNESS:**
6-8 μm

**RESISTIVITY:**
(at 8 μm fired) ~ 3.5 mΩ/square
(at 7 μm fired) ~ 4.0 mΩ/square

**PRINTING RESOLUTION:**
(Line/Space) (325 mesh stainless steel) 75 μm x 75 μm
(Special Screen) 50 μm x 50 μm

**THERMOSONIC GOLD WIREBONDING:**
(25 μm gold wire)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Initial</th>
<th>After 48 hours at 150°C</th>
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<tbody>
<tr>
<td>On bare 96% alumina</td>
<td>14 grams</td>
<td>10 grams</td>
</tr>
<tr>
<td>On 4905-C dielectric</td>
<td>14 grams</td>
<td>10 grams</td>
</tr>
</tbody>
</table>

**SOLDERED ADHESION:**

(2 mm x 2 mm pads, 80 Au/20 Sn solder, on 96% alumina) 64 N

8881-B 1401-D