SILVER PLATINUM CONDUCTOR

RoHS Compliant Silver Platinum Conductor

ESL 9512-G is a newly developed silver/platinum conductor, which can also be used as an interconnect paste in SOFC and other fuel cells. It exhibits excellent conductivity, adhesion to 96% alumina and tape-cast materials, and solder leach resistance. It is compatible with 4920 dielectric and tape-cast materials that are similarly free of alkali ions and the above metals.

PASTE DATA

RHEOLOGY: Thixotropic, screen-printable paste

VISCOITY:
(Brookfield RVT, ABZ Spindle, 10 rpm, 25.5°C±0.5°C) 250±25 Pa·s

BONDING MECHANISM: Mixed

SHELF LIFE: (25°C) 6 months

PROCESSING

SCREEN MESH/EMULSION: 325/25 μm

LEVELING TIME: (25°C) 5-10 minutes

DRYING AT 125°C: 10-15 minutes

FIRING TEMPERATURE: 850°C

TIME AT PEAK: 10-12 minutes

RATE OF ASCENT/DESCENT: 60°C-100°C/minute

TOTAL CYCLE: 50 minutes

SUBSTRATE OF CALIBRATION: 96% alumina

THINNER: ESL 413

9512-G 1301-B
TYPICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>FIRED THICKNESS:</td>
<td>10-15 μm</td>
</tr>
<tr>
<td>RESISTIVITY: (at 12.5μm fired thickness)</td>
<td>≤4 mΩ/sq.</td>
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<tr>
<td>PRINTING RESOLUTION: (Line/Space)</td>
<td>75 μm x 75 μm</td>
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<tr>
<td>SOLDER WETTABILITY: (RMA Flux, 5 sec. dip, 62 Sn/36 Pb/2 Ag, 220°C±5°C)</td>
<td>&gt; 95% coverage</td>
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<tr>
<td>SOLDER LEACH: (No. of 10 sec. dips to double resistance of 0.25 mm wide x 100 mm long conductor)</td>
<td>62 Sn/36 Pb/2 Ag, 220°C±5°C</td>
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<tr>
<td>ADHESION: (90° pull, 2.0 mm x 2.0 mm pads, 62 Sn/36 Pb/2 Ag, 220°C±5°C)</td>
<td>10 dips</td>
</tr>
<tr>
<td>Initial pull strength:</td>
<td>&gt; 70 N</td>
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<tr>
<td>Aged 200 hours at 150°C:</td>
<td>&gt; 70 N</td>
</tr>
</tbody>
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*Complies with RoHS, ELV, regulations.*

**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.

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