C7440 is a copper conductor paste designed for screen printing application on alumina substrates where soldering and aluminum wire bonding may be required. It has the capability to print 100 micron lines and spaces using 280 or 325 mesh screens with 0.2 to 0.5 mil emulsion.

**Key Benefits**
- REACH¹ and ROHS² compliant
- Lead, cadmium and nickel free
- Exceptionally high conductivity
- Migration resistant
- ENIG plateable on alumina

**Typical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Resistivity</strong></td>
<td>1.5 mΩ/µm at 25 µm fired film thickness</td>
</tr>
<tr>
<td><strong>Solderability</strong></td>
<td>SAC 305 at 245 °C</td>
</tr>
<tr>
<td></td>
<td>5 sec. dip, RMA flux</td>
</tr>
<tr>
<td></td>
<td>&gt; 95 %</td>
</tr>
<tr>
<td><strong>Adhesion¹</strong></td>
<td>80 x 80 mil pad</td>
</tr>
<tr>
<td></td>
<td>SAC 305 at 245 °C</td>
</tr>
<tr>
<td></td>
<td>RMA flux</td>
</tr>
<tr>
<td></td>
<td>Initial: 5.0 lbs</td>
</tr>
<tr>
<td></td>
<td>Aged: 5.0 lbs (48hrs at 150 °C)</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>175 – 220 Kcps, Brookfield HBT</td>
</tr>
<tr>
<td></td>
<td>SC4 – 14 spindle and 6R cup at 10 rpm, 25 °C</td>
</tr>
<tr>
<td><strong>Coverage</strong></td>
<td>55 cm²/g at 25 µm fired film thickness</td>
</tr>
<tr>
<td><strong>Wire Bonding</strong></td>
<td>10 mil Aluminum Wire</td>
</tr>
<tr>
<td><strong>Wire Bond Settings</strong></td>
<td>Power: 350 mwatts</td>
</tr>
<tr>
<td></td>
<td>Time: 3.5 msecs</td>
</tr>
<tr>
<td><strong>Solids</strong></td>
<td>88.5 ± 1.5 %</td>
</tr>
</tbody>
</table>

**Recommended Processing Guidelines**

**Printing**
- 280 – 325 mesh stainless steel screen
- 0.2 – 0.5 mil emulsion
- Allow to level at room temperature for 2 – 3 minutes

**Drying**
- 125 °C for 10 minutes

**Firing Profile**
- Fire in Nitrogen with O₂ between 2 – 10 ppm
- 925 °C peak
- Dwell time of 8 – 10 minutes
- Typical rise time of 20 – 23 minutes (measured from 100 °C entry point)
- Total cycle time of 50 – 65 minutes

**Line Resolution**
- ≥ 4 mils (100 µm)

**Thickness**
- Wet: 40 – 50 µm
- Fired: 20 – 25 µm

**Thinner**
- RV-507

**Warranty**
- To be determined.

**Storage**
- Store in a dry location at 5 – 25 °C.
- **DO NOT REFRIGERATE.**
- Allow paste to come to room temperature prior to opening. Spatulate well before using, as settling may have occurred during storage.

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¹ According to EU REACH regulations
² According to EU ROHS regulations
Technical Data Sheet

Fine Line, Wire Bondable Copper Conductor

Legend:

1) REACH compliant according to the latest ** Annex XIV to Regulation (EC) of the European Parliament and of the council on the Registration, Evaluation, Authorisation and Restriction of Chemicals ("REACH") by European Chemicals Agency and its subsequent amendments; the material does not contain any substance listed in Annex XIV.

2) RoHS compliant according to the latest ** Directives (European Union) of Restriction of Hazardous Substances ("RoHS") and its subsequent amendments (including the exceptions related to Pb)

* See the data sheet date (DD/MM/YY) as reference of validity of latest edition which is available on request