Product Description
DuPont QS171 silver/platinum conductor is a general purpose microcircuit conductor offering excellent adhesion and fired density and wide processing latitude. It has been designed to be cost-effective in demanding, commercial circuit applications.

Product Benefits
- Excellent thermal cycle adhesion and long term aged adhesion
- Broad process latitude
- High conductivity
- Excellent fine line and through-hole printability
- Excellent solderability
- Good wire bondability

Processing

Printing
DuPont QS171 prints easily using 325 mesh stainless steel screens with a 10 - 15 µm emulsion.

Drying
Allow prints to level for 5 - 10 minutes at room temperature followed by drying for 10 - 15 minutes at 150°C in a well-ventilated oven or belt dryer.

Firing
Fire in a well ventilated moving conveyor furnace, in air with either a 30 to 60 minute cycle to a peak temperature of 850°C.

Typical Fired Properties

<table>
<thead>
<tr>
<th>Test</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fired Thickness (µm)</td>
<td>10 - 14 (0.4 - 0.6 mil)</td>
</tr>
<tr>
<td>Line Resolution¹ (µm)</td>
<td>150 / 100</td>
</tr>
<tr>
<td>[lines/spaces] screen pattern</td>
<td>125/ 125</td>
</tr>
<tr>
<td>Resistivity (mΩ/sq)</td>
<td>4.5</td>
</tr>
<tr>
<td>At 10 µm fired film thickness</td>
<td></td>
</tr>
<tr>
<td>Solder Acceptance²</td>
<td>Excellent</td>
</tr>
<tr>
<td>On Al₂O₃</td>
<td></td>
</tr>
<tr>
<td>Solder Leach Resistance</td>
<td>4 - 5 cycles</td>
</tr>
<tr>
<td>On Al₂O₃</td>
<td></td>
</tr>
<tr>
<td>Adhesion</td>
<td>&gt; 25</td>
</tr>
<tr>
<td>Initial (N)</td>
<td></td>
</tr>
<tr>
<td>After 1000 thermal cycles (N)</td>
<td>&gt; 20</td>
</tr>
<tr>
<td>After 3000 hours at 1000°C (N)</td>
<td>&gt; 20</td>
</tr>
</tbody>
</table>

¹Excellent characterized as greater than 95% wetting with smooth solder film after 5- seconds dip in 62Sn36Pb2Ag solder at 220°C using mildly activated flux. Equivalent results for 30 or 60 minutes firing profiles.
²Cycle consist of dip in mildly-activated flux (Alpha 611), 10-second dip in solder (62Sn36Pb2Ag solder at 235°C) and washing off flux residue
°Firing temperature and 90° wire peel test on 2mm x 2mm pads soldered with 62Sn36Pb2Ag solder at 220°C and mildly activated flux. Average values are stated. Thermal cycle conditions: -40±125°C with 30 minutes at each temperature and approximately 10 minute transition time between temperatures.

Composition Properties

<table>
<thead>
<tr>
<th>Test</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity (Pa.S) Brookfield HBT, UC&amp;S #14, 10 rpm, 25°C</td>
<td>250 - 300</td>
</tr>
<tr>
<td>Thinner</td>
<td>DuPont 7502</td>
</tr>
</tbody>
</table>

This table shows anticipated typical physical properties for DuPont QS171 based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.
Typical 30 minutes fire profile

Storage and Shelf Life
Containers should be stored, tightly sealed, in a clean, stable environment at room temperature (<25°C). Shelf life of material in unopened containers is six months from date of shipment. Some settling of solids may occur and compositions should be thoroughly mixed prior to use.

Safety and Handling
For Safety and Handling information pertaining to this product, read the Material Safety Data Sheet (MSDS).

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