DuPont™ ME602
Silver Conductor

**Product Description**
DuPont™ ME602 is part of the DuPont suite of materials developed for In Mold Electronic applications. DuPont™ ME602 is a stretchable silver conductor capable of withstanding thermoforming and overmolding temperatures. This composition can be used for capacitive switch applications and interconnecting circuitry enabling fully integrated 3-dimensional functional electronic devices.

**Typical Circuit Line Thickness**
8 – 12 Microns
Printed with SD 56/36 (280mesh) stainless steel or 77 – 48 PET Screen

**Clean-Up Solvent**
Ethylene glycol diacetate

**Table 1 - Composition Properties**

<table>
<thead>
<tr>
<th>Test</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solids (%) @ 150°C</td>
<td>49.0 – 53.0</td>
</tr>
<tr>
<td>Viscosity (Pa.s) [Brookfield 0.5 x RVT, #14 Spindle 10 RPM, 25°C]</td>
<td>15 - 35</td>
</tr>
<tr>
<td>Thinner</td>
<td>DuPont™ 8260</td>
</tr>
</tbody>
</table>

**Table 2 - Typical Physical Properties**

<table>
<thead>
<tr>
<th>Test</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistivity on PC (mΩ/sq/mil)</td>
<td>≤45</td>
</tr>
<tr>
<td>Resistivity after Thermoforming (mΩ/sq/mil)</td>
<td>≤300*</td>
</tr>
<tr>
<td>Coverage (cm²/g) [using screen type 325 mesh polyester]</td>
<td>200</td>
</tr>
<tr>
<td>Abrasion Resistance (H) [ASTM pencil hardness]</td>
<td>≥H</td>
</tr>
<tr>
<td>Adhesion (B) [ASTM x-hatch, no material removal]</td>
<td>5</td>
</tr>
</tbody>
</table>

*Results can vary depending upon the degree of elongation after thermoforming.

Tables 1 and 2 show anticipated typical physical properties for DuPont™ ME602 based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

**Drying**
After printing, DuPont™ ME602 will interact with polycarbonate if left wet for extended periods. It is therefore recommended to dry as soon as possible after printing.

Drying is a critical processing step and in order to achieve optimum performance, sufficient temperature/time should be allowed to ensure complete removal of solvent.

**Product Benefits**
- Excellent adhesion directly on polycarbonate and graphic inks
- Excellent performance after thermoforming and injection molding

**Processing Conditions**

**Substrates**
Polycarbonate, surface-treated polyester

**Screen Printing Equipment**
Reel-to-reel, semi-automatic or manual

**Ink Residence Time on Screen**
>1 Hour

**Screen Types**
Polyester, stainless steel

**Typical Drying Conditions**
Box oven: 120°C for 20 minutes
Reel-to-reel: 120°C for 4 minutes
Thermoforming

Thermoforming performance of DuPont™ ME602 can vary depending on the build structure, processing conditions, thermoforming technique, and equipment used. As such, parameters need to be assessed and optimized.

If more precision is needed with printed symbols and structures, high pressure forming has shown to give more accuracy as it ensures more even stretch. Forming temperatures around 160°C can be used. Stretchability >50% can be achieved.

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.

Safety and Handling

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