PRODUCT DESCRIPTION

DuPont™ PE671 is a stretchable carbon conductor paste for printed low-voltage circuitry on elastic film and textile substrates. It is compatible with polyurethane (TPU) film and select synthetic fabrics.

PRODUCT BENEFITS

• Stretchable carbon conductor
• Washable with proper encapsulation
• Compatible with wide variety of fabric and film substrates
• Compatible with lamination

PROCESSING

Screen Printing Equipment

• Automatic reel-to-reel
• Semi-automatic flat-bed
• Rotary screen/cylinder screen

Substrates

• Select synthetic fabrics
• Coated fabrics & membranes
• Thermoplastic polyurethane films

Screens

• 325-200 Wire/inch stainless steel mesh
• 120-77 Thread/cm polyester mesh

Curing

Dry at 100-160°C for 2-10 minutes in a well-ventilated oven or conveyor dryer, where the exhaust meets environmental regulations. Drying efficiency and good print quality/thickness control help ensure best electrical and physical performance.

Table 1—Typical Physical Properties

<table>
<thead>
<tr>
<th>Test</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheet Resistivity (mΩsq/25µm)</td>
<td>&lt;500</td>
</tr>
<tr>
<td>(5µm Dried Print Thickness on ST505 PET Film)</td>
<td></td>
</tr>
<tr>
<td>Resistivity After Crease (ASTM F1683, 180deg, 1 cycle, 2kg)</td>
<td>&lt;5%</td>
</tr>
<tr>
<td>Abrasion Resistance (ASTM D3363 Pencil Hardness)</td>
<td>1H</td>
</tr>
<tr>
<td>Adhesion (Tape Cross Hatch) (ASTM D3359 w/3M Scotch Tape 600)</td>
<td>No Transfer</td>
</tr>
<tr>
<td>Clean-Up Solvent Encapsulant Ethylene Diacetate PE771/PE773</td>
<td></td>
</tr>
</tbody>
</table>

Table 2—Typical Composition Properties

<table>
<thead>
<tr>
<th>Test</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solids (%) @ 150°C</td>
<td>30-34</td>
</tr>
<tr>
<td>Viscosity (PaS) Brookfield RVT, #14 spindle, 10rpm, 25°C</td>
<td>40-75</td>
</tr>
<tr>
<td>Density (g/cc)</td>
<td>1.6</td>
</tr>
<tr>
<td>Coverage (cm²/g @ 5µm)</td>
<td>400</td>
</tr>
<tr>
<td>Coverage (cm²/g @ 10µm)</td>
<td>200</td>
</tr>
<tr>
<td>Dried Print Thickness (microns)</td>
<td>8-12</td>
</tr>
<tr>
<td>Thinner DuPont™ 8260</td>
<td></td>
</tr>
</tbody>
</table>

Printed on Melinex ST505 Polyester Film. This table shows anticipated typical physical properties for DuPont™ PE671 based on specific experiments and is not intended to represent the product specifications. Product specifications are available upon request.

SUBSTRATE TYPES

PE671 is appropriate for many types of thermally-stable substrates in wearable electronics applications. Due to the diverse nature of potential fabrics and films that could be considered, it is not always possible to provide detailed performance guidance. For more information, please call your local DuPont representative.
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. Thinning with DuPont™ 8260 may be desired in some cases depending on printing requirements.

SAFETY AND HANDLING
Please inform the DuPont product supplier if you intend to test PE873, alone or in combination with other materials, on human skin. For Safety and Handling information pertaining to this product, read the Material Safety Data Sheet (MSDS).

FOR MORE INFORMATION ON DUPONT™ PE671 OR OTHER DUPONT MICROCIRCUIT MATERIALS PRODUCTS, PLEASE CONTACT YOUR LOCAL REPRESENTATIVE:

**Americas**
DuPont Microcircuit Materials
14 TW Alexander Drive
Research Triangle Park, NC 27709
USA
Tel +1 800 284 3382 (calls within USA)
Tel +1 919 248 5188 (calls outside USA)

**Europe, Middle East & Africa**
Du Pont (UK) Ltd
Coldharbour Lane
Bristol BS16 1QD
UK
Tel +44 117 931 3191

**Asia**
Du Pont Kubushiki Kaisha
MCM Technical Lab
DuPont Electronics Center
KSP R&D B213, 2-1,
Sakado 3-chome, Takatsu-ku,
Kawasaki-shi, Kanagawa, 213-0012
Japan
Tel +81 44 820 7575

DuPont Taiwan Ltd
45, Hsing-Pont Road
Taoyuan, 330
Taiwan
Tel +886 3 377 3616

DuPont China Holding Company Ltd
Bldg. 11, 399 Keyuan Road
Zhangjiang Hi-Tech Park
Pudong New District
Shanghai 201203
Tel +86 21 3862 2888

**DuPont Korea Inc.**
3-5th Floor, Asia tower #726
Yeoksan-dong, Gangnam-gu
Seoul 135-719, Korea
Tel +82 2 2222 5275

E.I. Du Pont India Private Limited
7th Floor, Tower C, DLF Cyber Greens
Sector-25A, DLF City, Phase-III
Gurgaon 122 002 Haryana, India
Tel +91 124 409 1818

Du Pont Company (Singapore) Pte Ltd
1 HarbourFront Place, #11-01
HarbourFront Tower One
Singapore 098633
Tel +65 6586 3022

www.mcm.dupont.com