

DuPont 5000

SILVER CONDUCTOR

Technical Data Sheet

Product Description

DuPont 5000 silver conductor is used to fabricate low-voltage circuitry, especially on flexible substrates including print-treated and non-print-treated polyester. Using a unique combination of flake silver and resin technology, DuPont 5000 possesses excellent conductivity, abrasion resistance, and printability. DuPont 5000 is fully compatible with DuPont 7102 (overcoat carbon) and DuPont 5018 UV dielectric. It can be used with reel-to-reel, semiautomatic, and manual printers, and offers excellent residence time on the screen.

Product Benefits

- Thinner printing, fast drying, vinyl resin

Processing

- **Screen Printing Equipment**
Reel-to-reel, Semi-automatic, manual
- **Substrates**
Polyester, paper epoxy glass, etc.
- **Ink Residence Time on Screen**
>2 hours
- **Screen Types**
Polyester, stainless steel
- **Typical Cure Conditions**
Box Oven: 120°C for 8-10 minutes
Reel-to-reel: 140°C for 1-1.5 minutes
IR Belt Furnace: 130°C for 2-4 minutes
- **Typical Circuit Line Thickness Printed with:**
280 Stainless: 8-9 microns
195 Polyester: 8-9 microns
- **Clean up Solvent**
Ethylene diacetate or methyl propasol acetate

Table 1
Typical Physical Properties

Test	Properties
Sheet Resistivity (mΩ/sq/mil)	≤ 15
Crease (1 cycle, mΩ/sq/mil) [ASTM F1683]	≤ 18
Adhesion / Tape Pull (3M Scotch Tape #600)	No Material Removal
Abrasion Resistance, Pencil Hardness (H) [ASTM D3363-74]	> 4
Operating Use temperature (°C)	≤ 70

Table 2
Composition Properties

Viscosity (Pa.S) [Brookfield ½ RVT, 10 rpm #14 spindle, 25°C]	3.5 - 16.0
Solids (150°C)(%)	58 - 62
Coverage (sqft/mil/gal) [dependent on print thickness]	475
Coverage (sq inches/g @ 0.3 mil)	28.8
Thinner	DuPont 8260

Table 1 & 2 show anticipated typical physical properties for DuPont 5000 based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

Dry

Dry and cure in a well ventilated oven or conveyor dryer where the exhaust meets environmental regulations.

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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