

DuPont 5025

SILVER CONDUCTOR

Technical Data Sheet

Product Description

DuPont 5025 silver conductor is used to fabricate low voltage circuitry, especially on flexible substrates. It can be used with manual, semi-automatic, and reel-to-reel equipment.

Product Benefits

- Best general purpose Ag for higher temperature operations

Processing

- **Screen Printing Equipment**
Reel-to-reel, Semiautomatic, manual
- **Substrates**
Polyester, polyimide, paper, epoxy glass
- **Ink Residence Time on Screen**
> 2 hours
- **Screen Types**
Stainless steel, Polyester
- **Typical Cure Conditions**
Box Oven: 120°C for 5 - 6 minutes
Reel-to-reel: 140°C for 1 minute
- **Typical Circuit Line Thickness Printed with 325-mesh stainless steel screen**
12 - 15 microns
- **Clean-up Solvent**
Ethylene diacetate or methyl propasol acetate

Table 1
Typical Physical Properties on 5-mil Polyester Film

Test	Properties
Sheet Resistivity (mΩ/sq/mil)*	12 - 15
Resistivity after Flex (mΩ/sq/mil) 15 sec after test Crease (180°, 1 cycle)	≤ 50
Adhesion/Tape Pull (3M Scotch Tape #600)	No Ag Transfer
Abrasion Resistance, Pencil Hardness (ASTM D3363-74) [H]	≥1
Operating Use Temperature (°C)	≤ 110
Solderability	Not Recommended
Change in Physical Properties after Environment Test *	Insignificant
Change in Physical Properties after Environment Test * (%)	<10

* Environmental Tests
 • Thermal Shock (+85°C to -40°C, 30 min. each, 5 cycles)
 • Dry Heat (+85°C, 20 days)
 • Humidity (+60°C, 95% RH, 10 days) [MIL Std 202E, method 103, cond. A]
 • Salt Spray (+35°C, 5% salt, 10 days) [ASTM B117]
 • Silver Migration (1 V DC/mil gap, +40°, 90% RH, 500 hr, tested on 40 and 70-mil gaps)
 • Sulfate Dioxide (+45°C, 90% RH, 500 hrs in a 9-liter chamber containing 500 mg of flowers of sulfur)

Table 1 & 2 show anticipated typical physical properties for DuPont 5025 based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

**Table 2
Composition Properties**

Test	Properties
Viscosity (Pa.S) [Brookfield 0.5RVT, 5rpm #14, 25°C]	20 - 30
Solids (150°C) [%]	68 - 72
Coverage (cm ² /g) [Dependent on print thickness]	230 - 320
Thinner	DuPont 8210

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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