

DUPONT PE825

SILVER COMPOSITE CONDUCTOR - TECHNICAL DATA SHEET

PRODUCT DESCRIPTION

DuPont PE825 Silver Composite Conductor is used to fabricate low-voltage circuitry, on flexible substrates including polyester film. PE825 is a highly efficient silver-bearing conductor that possesses excellent abrasion resistance, adhesion, & print resolution. DuPont PE825 is fully compatible with DuPont 8144 (overcoat carbon) and DuPont 5018 UV dielectric.

PRODUCT BENEFITS

- High Conductivity Silver Composite Conductor
- Thermal Cure 120–140°C; 2–10 minutes
- < 25 mOhms/square/mil @ 10 μm
- Primarily for Membrane Switch Applications

PROCESSING

Screen Printing Equipment

- Automatic Reel-to-Reel
- Semi-Automatic Flat-Bed
- Rotary Screen/Cylinder Screen

Substrates

- Polyester Film (print-treated, non-print-treated)
- Coated Papers & Nonwovens
- Rigid Epoxy or Glass

Screens

- 325–230 wire/inch Stainless Steel mesh
- 120–90 thread/cm Polyester mesh

Curing

Dry at 120–140°C oven for 2–10 minutes in a well-ventilated oven or conveyor dryer, where the exhaust meets environmental regulations. Drying efficiency, print quality/thickness help insure best electrical & physical performance.

Table 1 - Typical Electrical & Physical Properties
(Printed on Melinex ST505 Polyester Film)

Test	Properties
Sheet Resistivity (mOhms/sq/25 μm) 140°C/10 min (10 μm Dried Print Thickness)	< 30
Resistivity Δ% After Crease w/5018 UV Encap (ASTM F1683, 180°, 1 cycle, No Encap 2 kg)	< 12% < 15%
Abrasion Resistance (ASTM D3363 Pencil Hardness)	2H
Adhesion (Tape Cross Hatch) (ASTM D3359 w/3M Scotch Tape 600)	No Transfer
Clean-up Solvent	Ethylene Diacetate
Overprint Carbon/Dielectric	8144/5018

Table 2 - Typical Composition Properties
(Printed on Melinex ST505 Polyester Film)

Test	Properties
Solids (%) @ 150°C	73–77
Viscosity (PaS) Brookfield RVT, #14 spindle, 10 rpm, 25°C	15–35
Density (g/cc)	2.6
Coverage (cm ² /g @ 10 μm)	180
Coverage (cm ² /g @ 15 μm)	130
Dried Print Thickness (microns)	10–15
Thinner	DuPont 8260

This table shows anticipated typical physical properties for DuPont PE825 based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

DUPONT PE825

SILVER COMPOSITE CONDUCTOR - TECHNICAL DATA SHEET

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 is not recommended.

SAFETY AND HANDLING

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

For more information on DuPont PE825 or other DuPont Microcircuit Materials products, please contact your local representative:

Americas

DuPont Microcircuit Materials
14 T.W. Alexander Drive
Research Triangle Park, NC 27709
Tel: 800.284.3382

Europe

DuPont (UK) Limited
Coldharbour Lane
Bristol BS16 1QD
United Kingdom
Tel: 44.117.931.3191

Asia

DuPont Kabushiki Kaisha
MCM Technical Lab
DuPont Electronics Center
KSP R&D B213
2-1, Sakado 3-Chom,
Takatsu-ku, Kawasaki-shi
Kanagawa, 213-0012
Japan

Tel: 81-3-5521-8650

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

DuPont China Holding Co. Ltd
Bldg 11, 399 Keyuan Rd.
Zhangji Hi-Tech Park
Pudong New District
Shanghai 201203, China
Tel: 86-21-6386-6366 ext. 2202

DuPont Korea Inc.
3-5th Floor, Asia tower #726
Yeoksam-dong, Gangnam-gu
Seoul 135-719, Korea
Tel: 82-10-6385-5399

E.I. DuPont India Private Limited
7th Floor, Tower C, DLF Cyber Greens
Sector-25A, DLF City, Phase-III
Gurgaon 122 002 Haryana, India
Tel: 91-124-4091818

DuPont Company (Singapore) Pte Ltd
1 Harbour Front Place, #11-01
Harbour Frong Tower One,
Singapore 098633
Tel: 65-6586-3022

<http://mcm.dupont.com>

Copyright © 2013 DuPont. All rights reserved. The DuPont Oval Logo, DuPont™, and all DuPont products denoted with * or ™ are registered trademarks or trademarks of E. I. du Pont de Nemours and Company or its affiliates.

This information corresponds to our current knowledge on the subject. It is offered solely to provide possible suggestions for your own experimentations. It is not intended, however, to substitute for any testing you may need to conduct to determine for yourself the suitability of our products for your particular purposes. This information may be subject to revision as new knowledge and experience becomes available. Since we cannot anticipate all variations in end-use conditions, DuPont makes no warranties, and assumes no liability in connection with any use of this information. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent right.

CAUTION: Do not use in medical applications involving permanent implantation in the human body. For other medical applications, see "DuPont Medical Caution Statement," H-50102-4.