



# DUPONT™ PE827

## ULTRA-LOW TEMPERATURE CURE SILVER COMPOSITE CONDUCTOR

### PRODUCT DESCRIPTION

DuPont™ PE827 is a very low temperature drying Silver Composite Conductor. PE827 has been designed to maintain low temperature substrate tolerances as this composition can be processed between 60°C-100°C. When dried using these low temperatures, PE827 has a unique ability to achieve very good physical and electrical properties. PE827 is a more economical version of PE828.

### PRODUCT BENEFITS

- Very low temperature drying
- Best thermal cure achieved between 60-100°C
- Excellent adhesion to a variety of substrates
- Compatible/blendable with PE828 for desired resistivity

### PROCESSING

#### Screen Printing Equipment

- Automatic reel-to-reel
- Semi-automatic flat-bed

#### Substrates

- Polycarbonate
- PVC
- Acrylic
- Polyester Film
- Polystyrene
- PVDF

#### Screens

- Stainless steel mesh - 325–230 wire/inch (SD 50/30-SD 75/36)
- Polyester mesh - 90-40 to 61-64 thread/cm

#### Drying

For best conductivity, dry at 60°C –100°C in a well-ventilated box/static oven for 10–20 minutes Conveyorised/tunnel ovens tend to be more efficient and drying times will be shorter. Drying efficiency, and print quality/thickness help insure best electrical and physical performance. Graph 1 shows a relationship between resistivity, time and temperature.

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

Test	Properties
Sheet Resistivity (mOhms/sq/25 µm)	<60
Resistivity Δ% After Crease (ASTM F1683, 180°, 1 cycle, No Encap. 2 kg)	<30%
Abrasion Resistance (ASTM D3363 Pencil Hardness)	H
Adhesion (Tape Cross Hatch) (ASTM D3359 w/3M Scotch Tape 600)	No Transfer
Clean-up Solvent	Ethylene Diacetate
Dielectric	DuPont™ 5018

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

Test	Properties
Solids (%) @ 150°C	76–80
Viscosity (PaS) Brookfield RVT, #14 spindle, 10 rpm, 25°C	15–50
Density (g/cc)	2.6
Coverage (cm²/g @ 10 µm)	180
Dried Print Thickness (microns)	10–15
Thinner	DuPont™ 8265

This table shows anticipated typical physical properties for DuPont™ PE827 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™ PE827 ULTRA-LOW TEMPERATURE CURE SILVER COMPOSITE CONDUCTOR

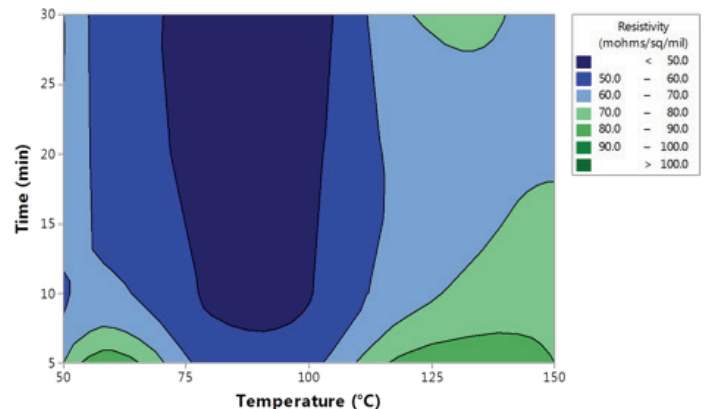
## STORAGE AND SHELF LIFE

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).

Graph 1 - PE827 Normalized Resistivity vs Time & Temperature



## FOR MORE INFORMATION ON DUPONT™ PE827 OR OTHER DUPONT MICROCIRCUIT MATERIALS, 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  
Yeoksam-dong, Gangnam-gu  
Seoul 135-719, Korea  
Tel +82 2 2222 5275

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 +91 124 409 1818

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

[mcm.dupont.com](http://mcm.dupont.com)

Copyright © 2015 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 experiments. 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-50102-5 K-28896 (9/15)