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 (cm^2/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.

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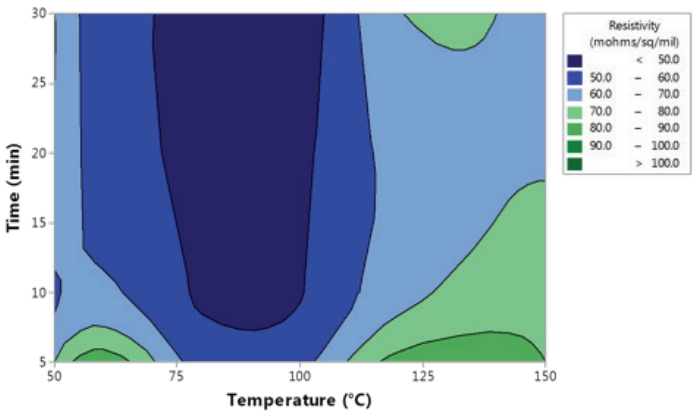
STORAGE AND SHELF LIFE

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



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