Micromax™ PE827

Electronic Inks and Pastes

Ultra-Low Temperature Cure Silver Composite Conductor

Micromax™ PE827 is a very low temperature drying Silver Composite Conductor. Micromax™ 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, Micromax™ PE827 has a unique ability to achieve very good physical and electrical properties. Micromax™ PE827 is a more economical version of Micromax™ 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 Micromax™ PE828 for desired resistivity

Product information

Solvent or thinner	Micromax™ 8270	
Density	2.6	g/cm^3
Solid content	76 - 80[1]	%

[1]: 150°C

Rheological properties

Viscosity	15 - 50[2]	Pa.s

[2]: Brookfield RVT, #14 spindle, 10 rpm, 25°C

Application technique

Mask mesh	230 - 325[3]	
Drying time	10 - 20	min
Drying temperature	60 - 100	°C
Theoretical coverage	180[4]	cm^2/g
Recommended film thickness, dried	10 - 15	µm

[3]: Screen Types: Stainless steel

[4]: at 10µm

Typical mechanical properties

Adhesion, cross hatch	5B[5]	class

[5]: ASTM D3359-78, w/3M Scotch Tape #600

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Electrical properties

Surface resistivity	≤120[6]	mOhm per square	
Resistivity retention after crease, 180°C, 1 cycle, 2kg	≤30[7]	%	ASTM F 1683

[6]: at 25µm

[7]: ASTM F1683, 180degc, 1 cycle, 2kg

Storage and stability

Shelf life	6[8]	months

[8]: in unopened containers, from date of shipment, at temperature <25°C

Additional information

How to use

Processing

- Substrates
  - Polycarbonate
  - PVC
  - Acrylic
  - Polyester film
  - Polystyrene
  - PVDF
- Screen types
  - Stainless steel mesh - 325-230 wire/inch (SD 50/30-SD 75/36)
  - Polyester mesh - 90-40 to 61-64 thread/cm
- Printing
  - Automatic reel-to-reel
  - Semi-automatic flat-bed
- Thinning
  - Thinning is not recommended.
- Clean-up solvent
  - Triethyl phosphate
- 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.
- Dielectric
  - Micromax™ 8270

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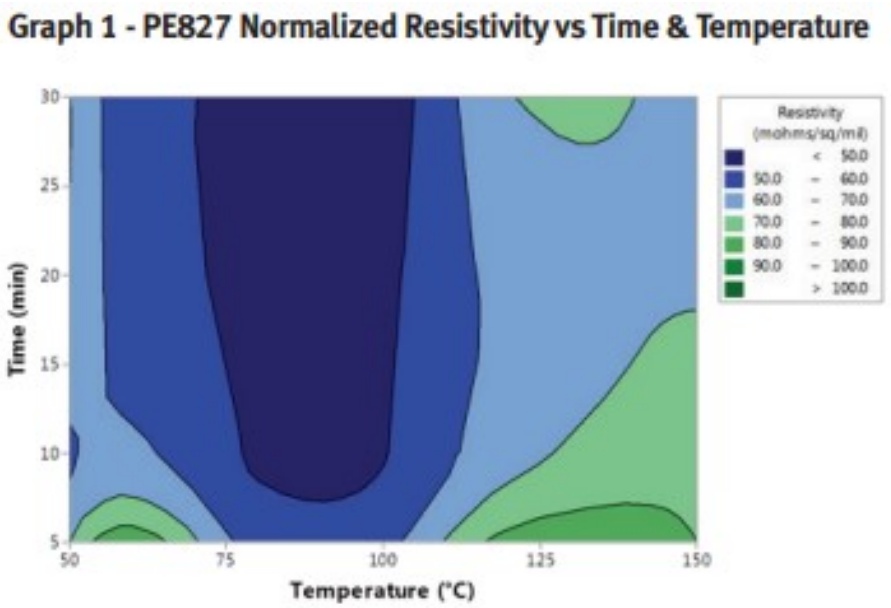

Properties

Typical Physical Properties (Printed on Melinex ST505 Polyester Film)

Test	Properties
Abrasion Resistance, Pencil Hardness (ASTM D3363-74) [H]	1

Information in this datasheet shows anticipated typical physical properties for Micromax™ 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.

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 Safety Data Sheet (SDS).

Celanese
The chemistry inside innovation™

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