Micromax™ PE825

Electronic Inks and Pastes

Silver Composite Conductor

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

Product benefits

- High Conductivity Silver Composite Conductor
- Thermal Cure 120-140 °C; 2-10 minutes
- < 30 mOhms/square/mil at 10µm
- Primarily for Membrane Switch Applications

Product information

Solvent or thinner	Micromax™ 8210	
Density	2.6	g/cm³
Solid content	73 - 77[1]	%

[1]: 150 °C

Rheological properties

Viscosity	15 - 35[2]	Pa.s

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

Application technique

Mask mesh	230 - 325[3]	
Drying time	2 - 10	min
Drying temperature	120 - 140	°C
Theoretical coverage	180[4]	cm²/g
Recommended film thickness, dried	10 - 15	µm

[3]: Screen Types: Stainless steel

[4]: at 10µm, in the case of at 15µm, 130 cm²/g

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	≤30[6]	mOhm per square	
Resistivity retention after crease, 180°C, 1 cycle, 2kg	≤15[7]	%	ASTM F 1683

[6]: at 25µm, 140°C/10min (10µm dried print thickness)

[7]: ASTM F1683, 180degc, 1 cycle, 2kg, No Encap. In the case of Micromax™ 5018 UV Encap, <12%.

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
  - Polyester film (print-treated, non-print-treated)
  - Coated papers & nonwovens
  - Rigid epoxy or glass
- Screen types
  - 325-230 wire/inch stainless steel mesh
  - 120-90 thread/cm polyester mesh
- Printing
  - Automatic reel-to-reel
  - Semi-automatic flat-bed
  - Rotary screen/cylinder screen
- Thinning
  - Thinning is not recommended.
- Clean-up solvent
  - Ethylene diacetate
- Drying
  - 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.
- Overprint carbon/dielectric
  - Micromax™ 8144/5018

Properties

Typical Physical Properties (Printed on Melinex ST505 Polyester Film)

Test	Properites

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Abrasion Resistance, Pencil Hardness (ASTM D3363-74) [H]	2

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

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).

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