Micromax™ Intexar™ PE874

Electronic Inks and Pastes

Stretchable Silver Conductor

Micromax™ Intexar™ PE874 is a high recovery stretchable silver conductor paste for printed low-voltage circuitry on elastomeric film and textile substrates. Micromax™ PE874 is a silver-bearing conductor that possesses excellent stretchability, adhesion, and conduction. It is compatible with polyurethane (TPU) film and select synthetic fabrics.

Product benefits

- High recovery stretchable conductor
- Washable with proper encapsulation
- Compatible with wide variety of fabric and film substrates
- Compatible with lamination

Product information

Solvent or thinner	Micromax™ 8260	
Density	2.41	g/cm³
Solid content	63 - 68[1]	%

[1]: 150 °C

Rheological properties

Viscosity	20 - 60[2]	Pa.s

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

Application technique

Mask mesh	200 - 325[3]	
Drying time	15	min
Drying temperature	130	°C
Recommended film thickness, dried	8 - 12	µm

[3]: Screen Types: Stainless steel

Typical mechanical properties

Adhesion, cross hatch	5B[4]	class

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

Electrical properties

Surface resistivity	≤50[5]	mOhm per square	
Resistivity retention after crease, 180 °C, 1 cycle, 2kg	≤5[6]	%	ASTM F 1683

[5]: at 25µm, 5µm dried print thickness on ST505 PET film

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

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Storage and stability

Shelf life	6[7] months

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

Additional information

How to use

Processing

- Substrates
  - Select synthetic fabrics
  - Coated fabrics & membranes
  - Thermoplastic polyurethane films
  - Micromax™ PE874 is appropriate for many types of thermally-stable substrates in wearable electronics applications. Due to the diverse nature of potential fabrics and films that could be considered, it is not always possible to provide detailed performance guidance. For more information, please call your local Micromax™ representative.
- Screen types
  - 325-200 wire/inch stainless steel mesh
  - 120-77 thread/cm polyester mesh
- Printing
  - Automatic reel-to-reel
  - Semi-automatic flat-bed
  - Rotary screen/cylinder screen
- Thinning
  - Thinning with Micromax™ 8260 may be desired in some cases depending on printing requirements.
- Drying
  - Dry at 130 °C for 15 minutes in a well-ventilated oven or conveyor dryer, where the exhaust meets environmental regulations. Drying efficiency and good print quality/thickness control helps ensure best electrical and physical performance.
- Clean-up solvent
  - Ethylene diacetate
- Encapsulant
  - Micromax™ PE773

Properties

Typical Physical Properties

Test	Properties

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

Printed on Melinex ST505 Polyester Film. Information in this datasheet shows anticipated typical physical properties for Micromax™ Intexar™ PE874 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).

Revised: 2023-06-21 Source: Celanese Materials Database