

Micromax™ Intexar™ PE672

Electronic Inks and Pastes

Stretchable Carbon Conductor

Micromax™ Intexar™ PE672 is a part of the suite of materials developed for Wearable applications. Micromax™ PE672 is a solvent based stretchable carbon conductor paste for printed low-voltage circuitry on elastic film and textile substrates.

Product benefits

- Stretchable carbon conductor
- Washable with proper encapsulation
- Compatible with wide variety of fabric and film substrates
- Compatible with lamination
- Stable resistance over broad temperature range

Product information

Solvent or thinner	Micromax™ 3610
Density	1.01 g/cm ³
Solid content	29 - 34 ^[1] %
[1]: 150°C	

Rheological properties

Viscosity	50 - 70 ^[2] Pa.s
[2]: Brookfield RVT, SC4-14/6R, 10 rpm, 25°C	

Application technique

Mask mesh	200 - 325 ^[3]
Drying time	15 min
Drying temperature	130 °C
Theoretical coverage	200 ^[4] cm ² /g
Recommended film thickness, dried	6 - 9 µm
[3]: Screen Types: Stainless steel	
[4]: at 10µm, in the case of at 5µm, 400 cm ² /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	≤400000 ^[6] mOhm per square	
Resistivity retention after crease, 180°C, 1 cycle, 2kg	≤5 ^[7] %	ASTM F 1683
[6]: at 25μm, 5μm dried print thickness on ST505 PET film		
[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**
 - Select synthetic fabrics
 - Coated fabrics & membranes
 - Thermoplastic polyurethane films
 - Polyester films
 - Micromax™ Intexar™ PE672 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. However, Micromax™ Intexar™ TE-11C film is good choice of substrate which is co-developed to complement stretchable paste that can be laminated to various fabrics. For more information, please contact 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
- **Clean-up solvent**
 - Ethylene diacetate
- **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 help ensure best electrical and physical performance. Drying at lower temperatures

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or longer times might be required on some substrates.

- **Encapsulant**
 - Micromax™ PE773

Properties

Typical Physical Properties

Test	Properties
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™ PE672 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).