

# Micromax™ Intexar™ PE773

## Electronic Inks and Pastes

### Stretchable Encapsulant For Wearables

Micromax™ Intexar™ PE773 is a stretchable encapsulant is used to protect low-voltage circuitry printed on elastic film and textile substrates. Micromax™ PE773 is a thin, stretchable protective encapsulant that possesses excellent flexibility, adhesion, and abrasion resistance. Micromax™ PE773 is designed for wearable electronic applications that may require repeated washing.

### Product benefits

- Translucent stretchable encapsulant
- Improves wash and abrasion performance of electrical circuit
- Compatible with wide variety of fabric and film substrates
- Compatible with lamination

### Product information

|               |                            |
|---------------|----------------------------|
| Colour        | Clear                      |
| Density       | 1.06 g/cm <sup>3</sup>     |
| Solid content | 21 - 24.5 <sup>[1]</sup> % |
| [1]: 150 °C   |                            |

### Rheological properties

|                                                      |                             |
|------------------------------------------------------|-----------------------------|
| Viscosity                                            | 20 - 50 <sup>[2]</sup> Pa.s |
| [2]: Brookfield 0.5X RVT, #14 spindle, 10 rpm, 25 °C |                             |

### Application technique

|                                                             |                                       |
|-------------------------------------------------------------|---------------------------------------|
| Mask mesh                                                   | 200 - 325 <sup>[3]</sup>              |
| Drying time                                                 | 15 min                                |
| Drying temperature                                          | 130 °C                                |
| Theoretical coverage                                        | 420 <sup>[4]</sup> cm <sup>2</sup> /g |
| Recommended film thickness, dried                           | 5 - 10 µm                             |
| [3]: Screen Types: Stainless steel                          |                                       |
| [4]: at 10µm, in the case of at 5µm, 600 cm <sup>2</sup> /g |                                       |

### Typical mechanical properties

|                                           |                         |
|-------------------------------------------|-------------------------|
| Adhesion, cross hatch                     | 5B <sup>[5]</sup> class |
| [5]: ASTM D3359-78, w/3M Scotch Tape #600 |                         |

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### Electrical properties

Resistivity retention after crease, 180°C, 1 cycle,  
2kg

≤5<sup>[6]</sup> %

ASTM F 1683

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

### Storage and stability

Shelf life

6<sup>[7]</sup> 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™ PE773 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™ 8265 may be desired in some cases depending on printing requirements.

#### • 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.

#### • Encapsulant

- Micromax™ PE773

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### Properties

#### Typical Physical Properties

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

Printed on Melinex ST505 polyester film unless stated otherwise. Information in this datasheet shows anticipated typical physical properties for Micromax™ Intexar™ PE773 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).