

Micromax™ 5000

Electronic Inks & Pastes

PRODUCT DESCRIPTION

Silver Conductor

Micromax™ 5000 silver conductor is used to fabricate low-voltage circuitry, especially on flexible substrates including print-treated and non-print-treated polyester. Using a unique combination of flake silver and resin technology, Micromax™ 5000 possesses excellent conductivity, abrasion resistance, and printability. Micromax™ 5000 is fully compatible with Micromax™ 7102 (overcoat carbon) and Micromax™ 5018 UV dielectric. It can be used with reel-to-reel, semiautomatic, and manual printers, and offers excellent residence time on the screen.

Product benefits

- Thinner printing, fast drying, vinyl resin

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

PRODUCT INFORMATION

General Properties	Value Unit
Application	Membrane switch conductor
Solvent or thinner	Micromax™ 8260
Solid content ¹	51.5 to 53.5 %
Maximum Service Temperature	70 °C

TECHNICAL DATA

Rheological Properties	Value Unit
Viscosity ²	3.5 to 16 Pa.s

Application Technique	Value Unit
Mask mesh ³	280

Application Technique	Value	Unit
Drying time ⁴	8 to 10	min
Drying temperature ⁵	120	°C
Theoretical coverage ⁶	4.5	cm ² /g
Recommended film thickness	8 to 9	µm
Mechanical Properties	Value	Unit
Adhesion ⁷	no material transfer	class
Electrical Properties	Value	Unit
Resistivity ⁸	≤15	mOhm per square
Storage and Stability	Value	Unit
Shelf life ⁹	6	months

¹750°C

²Brookfield 1/2RVT, 10 rpm #14 spindle, 25°C

³Screen Types: Stainless steel

⁴box oven

⁵box oven

⁶at 7.62µm

⁷3M Scotch Tape #600

⁸at 25.4µm

⁹in unopened containers, from date of shipment, stable environment at room temperature between 5°C - 30°C

PROCESSING GUIDELINES

Substrates

Polyester, paper, epoxy glass, etc.

Screen types

Polyester, stainless steel

Printing

Reel-to-reel, semi-automatic, manual

Typical circuit line thickness

Printed with 280-mesh Stainless: 8 - 9 µm

Printed with 195-mesh Polyester: 8 - 9 µm

Work life

>2 hours

Clean-up solvent

Ethylene diacetate or Methyl propanol acetate

Drying

Box oven: 120°C for 8-10 minutes

Reel-to-reel: 140°C for 1-1.5 minutes

IR belt furnace: 130°C for 2-4 minutes

Dry and cure in a well-ventilated oven or conveyor dryer where the exhaust meets environmental regulations.

Typical Physical & Composition Properties

Test	Properties
Crease (1 cycle, mΩ/sq/mil) (ASTM F1683)	≤ 18
Abrasion Resistance, Pencil Hardness (ASTM D3363-74) [H]	> 4
Coverage (sqft/mil/gal) (dependent on print thickness)	475

Information in this datasheet shows anticipated typical physical properties for Micromax™ 5000 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 between 5°C - 30°C. Shelf life of material in unopened containers is 6 months from date of shipment. Some settling of solids may occur and compositions should be thoroughly mixed prior to use.

Storage conditions on the product data sheets are intended to represent long-term material storage recommendations and not a shipping or temperature-at-receipt requirement.

Transportation: Under normal shipping conditions, without temperature control, Micromax™ products are not expected to exhibit a change in quality or fitness for use. Should extraordinary events result in extended transportation periods, Micromax™ recommends customers confirm products remain suitable for the intended application.

Safety and handling

For safety and handling information pertaining to this product, read Safety Data Sheet (SDS).

SAFETY & WARNING

It is recommended that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use.

Safety Data Sheets are available.

WASTE TREATMENT

Prior to using any recommendations or suggestions for waste treatment, the user is required to know the appropriate local/state/federal regulations for on-site or off-site treatment which may require permits. If there is any conflict regarding our recommendations, local/state/federal regulations take precedence.

CONTACT INFORMATION

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Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE. Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588

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