Micromax™ 5025

Electronic Inks and Pastes

Silver Conductor

Micromax™ 5025 silver conductor is used to fabricate low voltage circuitry, especially on flexible substrates. It can be used with manual, semi-automatic, and reel-to-reel equipment.

Product benefits

- Best general purpose Ag for higher temperature operations

Product information

Solvent or thinner	Micromax™ 8210	
Solid content	60.3 - 61.7[1]	%
Maximum Service Temperature	110[2]	°C

[1]: 750°C

[2]: on 5-mil Polyester Film

Rheological properties

Viscosity	20 - 30[3]	Pa.s

[3]: Brookfield 0.5RVT, 5 rpm, #14, 25°C

Application technique

Mask mesh	325	
Drying time	5 - 6[4]	min
Drying temperature	120[4]	°C
Theoretical coverage	230 - 320[5]	cm^2/g
Recommended film thickness, dried	12 - 15	µm

[4]: box oven

[5]: Dependent on print thickness

Typical mechanical properties

Adhesion, pull tape	no material transfer[6]	class

[6]: 3M Scotch Tape #600

Electrical properties

Surface resistivity	8 - 15[7]	mOhm per square

[7]: at 25.4µm

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Electronic Inks and Pastes

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, polyimide, paper, epoxy glass
- Screen types
  - Stainless steel, polyester
- Printing
  - Reel-to-reel, semi-automatic, manual
- Typical circuit line thickness
  - Printed with 325-mesh stainless steel screen
  - 12 - 15 µm
- Work life
  - > 2 hours
- Clean-up solvent
  - Ethylene diacetate or Methyl propasol acetate
- Drying
  - Box oven : 120 °C for 5-6 minutes
  - Reel-to-reel : 140 °C for 1 minute
  - Dry and cure in a well ventilated oven or conveyor dryer where the exhaust meets environmental regulations.

Properties

Typical Physical Properties on 5-mil Polyester Film

Test	Properties
Resistivity after Flex (mΩ/sq at 25.4µm) 15 sec after test Crease (180º, 1 cycle)	≤ 50
Abrasion Resistance, Pencil Hardness (ASTM D3363-74) [H]	≥ 1
Soldering	Not Recommended
Change in Physical Properties after Environmental Tests*	Insignificant

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Electronic Inks and Pastes

Change in Electrical Properties after Environmental Tests* (%)	< 10

* Environmental Tests
• Thermal Shock (+85°C to -40°C, 30 min. each, 5 cycles)
• Dry Heat (+85°C, 20 days)
• Humidity (+60°C, 95%RH, 10 days) (MIL Std 202E, method 103, cond. A)
• Salt Spray (+35°C, 5% salt, 10 days) (ASTM B117)
• Silver Migration (1 V DC/25.4µm gap, +40°C, 90% RH, 500 hr, tested on 1016µm and 1778µm gaps)
• Sulfate Dioxide (+45°C, 90% RH, 500 hrs in a 9-liter chamber containing 500 mg of sulfur)

Information in this datasheet shows anticipated typical physical properties for Micromax™ 5025 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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