Micromax™ 5085

Electronic Inks and Pastes

Silver Carbon Conductive Composition

Micromax™ 5085 is a silver/carbon used to fabricate low-voltage circuitry, especially on flexible substrates. This composition has been specifically designed for applications involving biosensors where high conductivity is not required. Micromax™ 5085 has also been designed for fast-curing applications.

Product benefits

- Excellent adhesion to polycarbonate
- Fast cure

Product information

Solvent or thinner	Micromax™ 3610	
Solid content	41 - 44[1]	%
Maximum Service Temperature	90[2]	°C

[1]: 750°C

[2]: on 5-mil polyester film

Rheological properties

Viscosity	20 - 50[3]	Pa.s

[3]: Brookfield 1/2RVT, #14 spindle, 10 rpm, 25°C

Application technique

Mask mesh	280[4]	
Drying time	5 - 6[5]	min
Drying temperature	130[5]	°C
Theoretical coverage	140 - 300[6]	cm^2/g
Recommended film thickness, dried	8 - 10	µm

[4]: Screen Types: Stainless steel

[5]: box oven

[6]: dependent on screen size and material

Typical mechanical properties

Adhesion, pull tape	no material transfer[7]	class

[7]: 3M Scotch Tape #810, on 5-mil polyester film

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Electrical properties

Surface resistivity	0 - 120[8]	mOhm per square

[8]: at 25.4µm, on 125µm polyester film

Storage and stability

Shelf life	6[9]	months

[9]: in unopened containers, from date of shipment, at temperature <25°C and avoid high heat (>30°C) or freezing

Additional information

How to use

Processing

- Substrates
  - Polyester, polyimide, paper, epoxy glass, polycarbonate
- Screen types
  - Polyester, stainless steel
- Printing
  - Reel-to-reel, semi-automatic, manual
- Work life
  - > 1 hour
- Typical circuit line thickness
  - Printed with 280-mesh stainless steel screen
  - 8 - 10 µm
- Clean-up solvent
  - Ethylene glycol diacetate
- Drying
  - Box oven : 130°C for 5-6 minutes
  - Reel-to-reel : 140°C for 1 minute

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)	< 500
Abrasion Resistance, Pencil Hardness (ASTM D3363-74) [H]	≥ 1
Soldering	Not Recommended

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Information in this datasheet shows anticipated typical physical properties for Micromax™ 5085 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). Avoid high heat (>30ºC) or freezing. 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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