Micromax™ 5075

Electronic Inks and Pastes

Silver Carbon Conductor

Silver carbon conductor Micromax™ 5075 is used to fabricate low-voltage circuitry, especially on flexible substrates. This composition has been specifically designed for applications requiring low-cost conductive paths where high conductivity is not required. In addition to conventional conductor applications, Micromax™ 5075 is particularly suitable for EMC-shielding and display leads.

Product benefits

- Low cost
- Excellent screen life
- Can be used with semi-automatic & manual printers
- Fast curing

Product information

Solvent or thinner	Micromax™ 8210	
Solid content	37 - 40[1]	%
Maximum Service Temperature	70[2]	°C

[1]: 1050 °C

[2]: on 125µm polyester film

Rheological properties

Viscosity	13 - 23[3]	Pa.s

[3]: Brookfield RVT, #14, 10 rpm, 25 °C

Application technique

Mask mesh	165 - 325[4]	
Drying time	10[5]	min
Drying temperature	120[5]	°C
Theoretical coverage	140 - 300[6]	cm^2/g
Recommended film thickness, dried	7 - 10	µm

[4]: Screen Types: Stainless steel

[5]: box oven

[6]: dependent on screen mesh size and type

Typical mechanical properties

Adhesion, cross hatch	5B[7]	class
Adhesion, pull tape	no material transfer[8]	class

[7]: ASTM D3359-78

[8]: 3M Scotch Tape #810, on 125µm polyester film.

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Electrical properties

Surface resistivity	≤200[9]	mOhm per square

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

Storage and stability

Shelf life	3[10]	months

[10]: in unopened containers, from date of shipment, at temperature <25°C

Additional information

How to use

Processing

- Substrates
  - Polyester, polyimide, polycarbonate, epoxy-glass
- Screen types
  - Polyester 66T-130T, stainless steel (SS) 165-325-mesh
- Printing
  - Reel-to-reel, semi-automatic, manual
  - Optimum printing characteristics of Micromax™ 5075 are generally achieved in the temperature range 20°C - 23°C. It is therefore important that the material, in its containers, is at this temperature prior to commencement of printing.
- Typical circuit line thickness
  - 7 - 10 µm
- Work life
  - > 2 hours
- Thinner
  - Micromax™ 5075 is optimised for screen printing and thinning is not normally required. Micromax™ thinner 8210 may be used sparingly for slight adjustments to viscosity or to replace evaporation losses. However, the use of too much thinner or the use of non-recommended thinner may affect the rheological behavior of the material and its printing characteristics.
- Clean-up solvent
  - Diethylene glycol ethyl ether acetate or Ethylene glycol diacetate
- Drying
  - Box oven : 120°C for 10 minutes
  - Reel-to-reel : 140°C for 1 minutes

Properties

Typical Physical Properties on 125µm Polyester Film

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Test	Properties
Abrasion Resistance, Pencil Hardness (ASTM D3363-74) [H]	> 2
Soldering	Not Recommended

All values reported here are results of experiments in our laboratories intended to illustrate product performance potential with a given experimental design. They are not intended to represent the product's specifications.

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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