Micromax™ 4141A

Electronic Inks and Pastes

Dielectric Composition

Micromax™ 4141A dielectric is a low-k value composition, designed to be fired using a 900 °C profile.

Product information

Solvent or thinner	Micromax™ 9450	
Solid content	71 - 73	%

Rheological properties

Viscosity	280 - 380[1]	Pa.s

[1]: Brookfield 2xHAT, 10 rpm, #14 SP&UC, 25 °C

Application technique

Mask mesh	280 - 325	
Drying time	15	min
Drying temperature	150	°C
Theoretical coverage	80 - 110[2]	cm^2/g
Recommended film thickness, fired	45 - 55	µm
Leveling time	10	min

[2]: at 25.4 µm, based on 50 µm dried thickness

Electrical properties

Dielectric Constant	3.9 - 4.6	
Dissipation Factor	≤0.5	%
Insulation Resistance, DC	≥1E12	Ohm
Breakdown Voltage	≥1000	V

[3]: at 25µm

Storage and stability

Shelf life	6[4]	months

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

Additional information

How to use

Design & compatibility

- Compatibility
  - Testing was done with Micromax™ QG150, Micromax™ 5715 and Micromax™ 5771. While they all work well, Micromax™ 5771 offers the best results.

Micromax™ 4141A

Electronic Inks and Pastes

Processing

- Printing
  - The composition should be thoroughly mixed before use. This is best achieved by slow, gentle, hand stirring with a clean, burr-free, hard rubber spatula for 1-2 minutes. Care must be taken to avoid air entrapment. Printing should be performed in a clean and well ventilated area. A 280 or 325-mesh screen with 3 prints is recommended.
  - Note : Optimum printing characteristics are generally achieved in the room temperature range of 20°C - 23°C. It is therefore important that the material, in its container, is at this temperature prior to commencement of printing.
- Thinning
  - This composition is optimized for screen printing, thinning is not normally required. Use the Micromax™ recommended thinner for slight adjustments to viscosity or to replace evaporation losses. The use of too much thinner or the use of a non recommended thinner may affect the rheological behavior of the material and its printing characteristics.
- Drying
  - Allow prints to level 10 minutes at room temperature. Dry in a well ventilated oven or conveyor dryer for 15 minutes at 150°C.
- Firing
  - Fire in a well ventilated belt, conveyor furnace, or static furnace. Fire using a 60 minute cycle in air. The peak temperature is held at 900°C for 10 minutes.

Properties

- Information in this datasheet shows anticipated typical physical properties for Micromax™ 4141A based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

General

Performance will depend to a large degree on care exercised in screen printing. Scrupulous care should be taken to keep the composition, printing screens and other tools free of metal contamination. Dust, lint and other particulate matter may also contribute to poor yields.

Micromax™ 4141A

Electronic Inks and Pastes

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).