

Micromax™ 0001 B

Electronic Inks and Pastes

Resistor Composition

Designed to give high productivity and high quality, Micromax™ 0001B has been specifically developed for Chip Resistor applications. It also meets the market need for low cost manufacturing.

Product benefits

- Designed to give high power performance at low thickness
- Excellent blend ability for low resistivity application
- Improved green strength
- Cadmium, Nickel and Phthalate free*

*Cadmium, Nickel and Phthalate 'free' as used herein means that cadmium, nickel and phthalate are not intentional ingredients in and are not intentionally added to the referenced product. Trace amount however may be present.

Product information

Solvent or thinner	Micromax™ 8250
--------------------	----------------

Rheological properties

Viscosity	80 - 180 ^[1] Pa.s
[1]: Brookfield HBT, SC4-14/6R, @10rpm, 25 °C	

Application technique

Drying time	10 min
Drying temperature	150 °C
Recommended film thickness, dried	18 - 22 µm

Electrical properties

Surface resistivity	850 - 1150 ^[2] mOhm per square
Hot Temperature Coefficient Resistance	-200 - 200 ^[3] ppm/K
Cold Temperature Coefficient Resistance	-200 - 200 ^[4] ppm/K

[2]: 25°C@dried 20µm , Resistor geometry is 500sq.

[3]: Hot TCR (ppm/°C) 25 to 125 °C , Resistor geometry is 500sq.

[4]: Cold TCR (ppm/°C) -55 to 25 °C , Resistor geometry is 500sq.

Micromax™ 0001B

Electronic Inks and Pastes

Storage and stability

Shelf life

6^[5] months

[5]: in unopened containers, from date of shipment, at temperature 5-30 °C

Additional information

How to use

Processing

• Terminations

- Micromax™ 0001B is designed for use with high silver-containing terminations. Reported properties were obtained using Micromax™ 5426 Ag/Pd termination.

• Substrates

- Properties are based on tests with 96% alumina substrates.

• Printing

- The composition should be thoroughly mixed before use. This is best achieved by slow, gentle, hand-stirring with a clean burr-free spatula (flexible plastic or stainless steel) for 1-2 minutes. Care must be taken to avoid air entrapment. Printing should be performed in a clean and well-ventilated area.
- 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

- The composition is optimized for screen printing. Thinner is normally not required. Use the 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 at room temperature. Then dry in a well-ventilated oven or conveyor dryer.

• Firing

- Firing 850 °C peak held for 10 minutes on 30 minutes firing cycle
- Fire in a well-ventilated belt, conveyor furnace, or static furnace. Air flows and extraction rates should be optimized to ensure that oxidizing conditions exist within the muffle, and that no exhaust gases enter the room.

Properties

Micromax™ 0001B

Electronic Inks and Pastes

- Information in this datasheet shows anticipated typical physical properties for Micromax™ 0001B 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.

Storage and shelf life

Containers should be stored, tightly sealed, in a clean, stable environment at temperature 5-30 °C. Shelf life of material in unopened containers is six months from date of shipment. Some setting 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).