Micromax™ 9896R

Electronic Inks and Pastes

Pt Composition

Micromax™ 9896R Pt conductor has been designed to be a fritless Pt conductor. It can be used for laser welding for high temperature interconnections and component assembly for sintered chip attachment. It is intended to be applied by screen printing and fired in a conveyor furnace in an air (oxidising) atmosphere.

Product benefits

- Fritless Pt conductor
- Phthalate, Cadmium, Lead and Nickel oxide free*

* Phthalate, Cadmium, Lead and Nickel oxide 'free' as used herein means that cadmium, phthalate and nickel oxide are not intenonal ingredients in and are not intenonally added to the referenced product. Trace amounts however may be present

Product information

Solvent or thinner	Micromax™ 8250	
Solid content	83 - 87[1]	%
Fineness Of Grind, 4th scratch	≤18[2]	µm

[1]: 1050 °C

[2]: < or =

Rheological properties

Viscosity	450 - 650[3]	Pa.s

[3]: Brookfield HBTD, Utility cup & spindle, (SC4-14/6R), 10rpm, 25 °C ± 0.2 °C

Application technique

Mask mesh	200	
Mask emulsion	10 - 15	µm
Drying time	10 - 30[4]	min
Drying temperature	160	°C

[4]: Dry time depend on thickness

Storage and stability

Shelf life	3[5]	months

[5]: in unopened containers, from date of shipment, at room temperature (between 5 °C – 30 °C)

Additional information

How to use

Design & compatibility

- Compatibility
  - Whilst Micromax™ has tested this composition with the materials

specified above and the recommended processing conditions, it is impossible or impractical to cover every combination of materials, customer processing conditions and circuit layouts. It is therefore essential that customers thoroughly evaluate the material in their specific situations in order to completely satisfy themselves with the overall quality and suitability of the composition for its intended application(s).

Processing

- Substrates
  - Substrates of different compositions and from various manufacturers may result in variations in performance properties
- Screen types
  - 200 mesh 30µm wire diameter with emulsion thickness of 10-150µm
  - Printing can be performed to build thickness from 20-120µm using multiple layers
- 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 about 1-2 minutes. Care must be taken to avoid air entrapment. Printing should be performed in a 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 the temperature prior to commencement of printing. Class 10,000 printing area is recommended for building complex hybrids and multilayer circuits, otherwise severe yield losses could occur.
- Thinning
  - Micromax™ 9896R composition is optimized for screen printing and 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 behaviour of the material and its printing characteristics.
- Drying
  - Dry time depend on thickness
  - Allow prints to level at room temperature, then dry in a well ventilated oven or conveyor dryer.
- Firing
  - 1100-1250°C depending on application
  - Fire in well ventilated belt, conveyor furnace or static furnace. Air

Micromax™ 9896R

Electronic Inks and Pastes

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

- 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, details of which are available upon demand.

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 may be stored in a clean, stable environment at room temperature (between 5°C – 30°C) with their lids ti ghtly sealed. Storage in high temperature (<30°C) or in freezers (temperature <0°C) is NOT recommended as this could cause irreversible changes in the material. The shelf life of compositions in factory-sealed (unopened) containers between (5°C – 30°C) is 3 months from date of shipment.

Safety and handling

For safety and handling information pertaining to this product, read Safety Data Sheet (SDS).