

MicromaxTM 9896R

Electronic Inks and Pastes

Pt Composition

MicromaxTM 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

[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

[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 MicromaxTM has tested this composition with the materials

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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 20-120
 µm 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

 MicromaxTM 9896R composition is optimized for screen printing and thinning is not normally required. Use the MicromaxTM 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

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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 $5\,^\circ\text{C} - 30\,^\circ\text{C}$) with their lids ti ghtly sealed. Storage in high temperature (<30 $\,^\circ\text{C}$) or in freezers (temperature <0 $\,^\circ\text{C}$) is NOT recommended as this could cause irreversible changes in the material. The shelf life of compositions in factory-sealed (unopened) containers between ($5\,^\circ\text{C} - 30\,^\circ\text{C}$) is 3 months from date of shipment.

Safety and handling

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

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NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colourants or other additives may cause significant variations in data values. Properties of moulded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design conditions and environmental exposure. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users seek and adhere to the manufac

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