Micromax™ QQ620

Electronic Inks and Pastes

Encapsulant Composition

Micromax™ QQ620 glass encapsulant composition is intended to form an insulating and protective layer over thick film circuits. It is applied to ceramics substrates by screen printing and fired in an air (oxidizing) atmosphere.

Product benefits

- Cadmium, Lead, Nickiel and Phthalate free* encapsulant, green color.
- Protection against reactive chemicals.
- Fireable on a low temperature (620 °C) profile.

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

Product information

Solvent or thinner	Micromax™ 8250

Rheological properties

Viscosity	90 - 130[1]	Pa.s

[1]: Brookfield HAT, UC&SP, 10 rpm, 25 °C

Application technique

Mask mesh	325	
Mask emulsion	10	µm
Drying time	10 - 15	min
Drying temperature	150	°C
Theoretical coverage	165[2]	cm^2/g
Recommended film thickness, fired	7 - 10	µm
Shrinkage, fired	30[3]	%
Leveling time	5 - 10	min

[2]: at 9µm fired thickness

[3]: ~30

Storage and stability

Shelf life	6[4]	months

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

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Additional information

How to use

Processing

- Substrates
  - Substrates of different compositions and from various manufacturers may result in variations in performance properties.
- Printing
  - 325 mesh stainless steel with 10µm emulsion
  - The composition should be thoroughly mixed before use. This is best achieved by slow, gently, hand stirring with a clean burr-free spatula (flexible plastic) for 0.5-1 minute. 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. Class 10,000 printing area is recommended of building complex hybrids and multilayer circuits, otherwise severe yield losses could occur.
- Thinning
  - This composition is optimized for screen printing, thinning is not normally required. Use the Micromax™ recommended thinner for slight adjustment 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
  - Allow prints to level for 5-10 minutes at room temperature, then dry for 10-15 minutes at 150°C
  - Dry in a well ventilated oven or conveyor dryer.
- Firing
  - 620°C plateau for at least 4 minutes, 7-10 minutes above 600°C, and at least 25 min. above 100°C on a 30 min. cycle in an air atmosphere.
  - Fire in a well ventilated belt, conveyor furnace, or static furnace. Air flow and extraction rates should be optimized to ensure that oxidising conditions exits within the muffle.

Properties

- Information in this datasheet shows anticipated typical physical properties for Micromax™ QQ620 based on specific controlled experiments in our

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labs and are not intended to represent the product specifications, details of which are available upon request.

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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