Micromax™ LF161

Electronic Inks and Pastes

Encapsulant Composition

Micromax™ LF161 glass encapsulant composition is intended to from an insulating and protective layer over thick film circuits and is an integral element of the System LF multilayer system. It is applied to ceramic substrates by screen printing and fired in an air (oxidizing) atmosphere.

Product benefits

- Lead, Cadmium, Chromium and Nickel Free*
- Protection against reactive chemicals
- Fireable on a low temperature (620 °C) profile

* Cadmium, chromium, nickel and lead 'free' as used herein means that these 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	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]	cm²/g
Recommended film thickness, fired	7 - 10	µm
Leveling time	5 - 10	min

[2]: based on average fired thickness of 9µm

Storage and stability

Shelf life	6[3]	months

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

Additional information

How to use

Processing

- Substrates
  - Substrates of different compositions and various manufacturers

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may result in variation 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.
- Thinning
  - This composition is optimized for screen-printing, thinning is not normally requited. 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 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 to 10 minutes above 600°C, and at least 25 minutes above 100°C on a 30-minute cycle in an air atmosphere.
  - Fire in a well ventilated belt, conveyor furnace, or static furnace. Airflows and extraction rates should be optimized to ensure that oxidizing conditions exist within the muffle.

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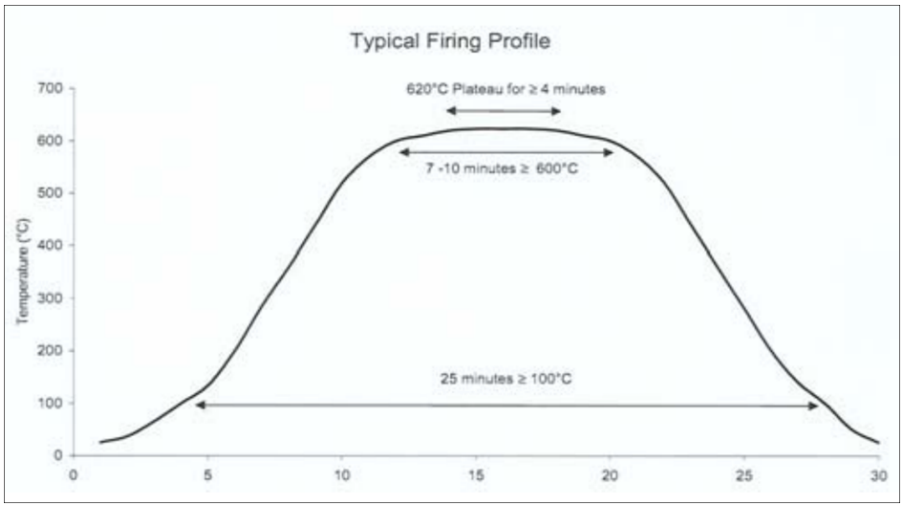

Properties

- Information in this datasheet shows anticipated typical physical properties for Micromax™ LF161 based on specific controlled experiments in our 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).

Revised: 2023-06-27 Source: Celanese Materials Database