

Micromax™ 5747

Microcircuit and Component Materials

Gold Via Fill Conductor

Gold conductor Micromax™ 5747 is a cadmium free via fill composition. It is used to fill vias in high density multi-layer gold hybrids.

Product benefits

- Cadmium free gold conductor
- Capable of via filling two to three dielectric layers with a single print
- Good top surface co planarity when used with Micromax™ multi-layer dielectrics

Product information

Solvent or thinner	Micromax™ 4577
Solid content	84.5 - 86.5 ^[1] %
[1]: 750 °C	

Rheological properties

Viscosity	180 - 230 ^[2] Pa.s
[2]: Brookfield HAT, US&SP SC4-14/6R, 10 rpm, 25 °C	

Application technique

Mask mesh	325
Drying time	10 - 15 min
Drying temperature	150 °C
Theoretical coverage	64 ^[3] cm ² /g
Leveling time	5 - 10 min

[3]: based on an average dried thickness of 15µm

Storage and stability

Shelf life	6 ^[4] months
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[4]: in unopened containers, from date of shipment, at temperature <25 ° C

Additional information

How to use

Processing

- **Substrates**
 - Properties are based on tests on 96% alumina substrates. Substrates of other compositions and from various manufacturers may result in variations in performance properties, as may different lots of substrates, and any subsequent processing of

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substrates (e.g. laser scribing or drilling) prior to printing.

- It is the responsibility of users to determine the effects of any of the above variable in their particular situations.

• Printing

- Micromax™ 5747 conductor composition should be thoroughly mixed before use. This is best achieved by slow, gentle hand stirring with a clean, burr-free spatula (flexible plastic) for 30 seconds - 1 minute. Printing should be carried out in a clean, well-ventilated area.
- Note : Optimum printing characteristics of Micromax™ 5747 are generally achieved in the temperature range 20°C - 23°C. It is therefore important that the material, in its container, is at this temperature prior to commencement of printing. For best via fill a 325 mesh stainless steel screen is recommended.

• Drying

- Allow prints to level for 5-10 minutes at room temperature in a clean environment, followed by drying for 10-15 minutes at 150°C in a well ventilated oven or conveyor dryer.

• Firing

- Micromax™ 5747 may be fired in either a 30 or 60 minutes firing cycle to a peak temperature of 850°C held for 10 minutes. Care must be taken to ensure that any gases/vapors from other chemicals/materials (e.g. halogenated solvents) do not enter the furnace muffle. It is also essential that the air supply to the furnace is clean, dry and free of contaminants.
- Air flows and extraction rates should be optimized to ensure that oxidizing conditions exist within the muffle, and that no furnace exhaust gases enter the room.

Properties

- Information in this datasheet shows anticipated typical physical properties for Micromax™ 5747 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.

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Safety and handling

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

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