

Micromax™ 5747

Electronic Inks & Pastes

PRODUCT DESCRIPTION

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

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

PRODUCT INFORMATION

General Properties	Value Unit
Application	High reliability Au conductor
Solvent or thinner	Micromax™ 4577
Solid content ¹	84.5 to 86.5 %

TECHNICAL DATA

Rheological Properties	Value Unit
Viscosity ²	180 to 230 Pa.s

Application Technique	Value Unit
Mask mesh	325
Drying time	10 to 15 min
Drying temperature	150 °C
Theoretical coverage ³	64 cm ² /g
Leveling time	5 to 10 min

Electrical Properties	Value	Unit
Resistivity ⁴	4 to 13	mOhm per square

Storage and Stability	Value	Unit
Shelf life ⁵	6	months

¹750°C

²Brookfield HAT, US&SP; SC4-14/6R, 10 rpm, 25°C

³based on an average dried thickness of 15µm

⁴@20µm fired thickness

⁵in unopened containers, from date of shipment, stable environment at room temperature between 5°C - 30°C

PROCESSING GUIDELINES

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 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 between 5°C - 30°C. Shelf life of material in unopened containers is 6 months from date of shipment. Some settling of solids may occur and compositions should be thoroughly mixed prior to use.

Storage conditions on the product data sheets are intended to represent long-term material storage recommendations and not a shipping or temperature-at-receipt requirement.

Transportation: Under normal shipping conditions, without temperature control, Micromax™ products are not expected to exhibit a change in quality or fitness for use. Should extraordinary events result in extended transportation periods, Micromax™ recommends customers confirm products remain suitable for the intended application.

Safety and handling

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

SAFETY & WARNING

It is recommended that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use.

Safety Data Sheets are available.

WASTE TREATMENT

Prior to using any recommendations or suggestions for waste treatment, the user is required to know the appropriate local/state/federal regulations for on-site or off-site treatment which may require permits. If there is any conflict regarding our recommendations, local/state/federal regulations take precedence.

CONTACT INFORMATION

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Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE . Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588

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