Micromax™ 5771

Electronic Inks & Pastes

PRODUCT DESCRIPTION

Gold Conductor

Micromax™ 5771 is a cadmium-free*, screen printable, composition. It is used as a gold wire bondable conductor in high density hybrids. Micromax™ 5771 is capable of good automatic gold wire bonding yields with 1-mil and 2-mil wire. Micromax™ 5771 works well over multilayer dielectrics, such as Micromax™ QM44.

*Cadmium 'free' as used herein means that this is not intentionally added to the referenced product. Trace amounts however may be present.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

PRODUCT INFORMATION

General Properties	Value	Unit
Application	High reliability Au conductor	
Solvent or thinner	Micromax™ 8672	
Solid content	83.7 to 85.7	%

TECHNICAL DATA

Rheological Properties	Value	Unit
Viscosity[1]	350 to 500	Pa.s

Application Technique	Value	Unit
Mask mesh[2]	325	
Mask emulsion	12	µm
Drying time	15	min
Drying temperature	150	°C
Theoretical coverage	50 to 80	cm^2/g

Application Technique	Value	Unit
Recommended film thickness	6 to 9	µm
Leveling time	10 to 15	min

Electrical Properties	Value	Unit
Resistivity[3]	≤7	mOhm per square

Storage and Stability	Value	Unit
Shelf life[4]	6	months

[1]Brookfield 2xHAT, SC4-14/6R, 10rpm, 25°C
[2]Screen Types: Stainless steel
[3]@10µm fired thickness
[4]in unopened containers, from date of shipment, stable environment at room temperature between 5°C - 30°C

PROCESSING GUIDELINES

Substrates

Properties are based on tests using 96% alumina substrates. Substrates of other compositions and from various manufacturers may result in variations in performance properties.

Printing

A 325-mesh stainless steel screen with an 12 µm (0.5 mil) emulsion thickness is recommended. Printing speeds up to 15 cm/s (6 in/s) can be achieved.

Drying

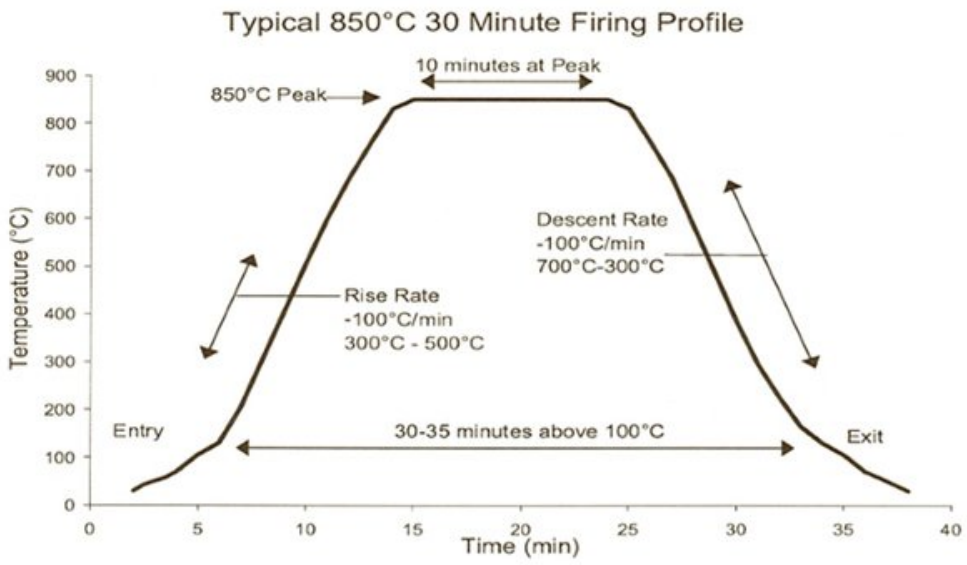
Allow the wet print to level at room temperature, then dried.

Firing

Dried prints should be fired in a belt furnace. Use a 30 minutes cycle with a peak temperature of 850°C for 10 minutes. No significant changes in performance characteristics were seen after multiple refirings at 850°C. See Figure 1.

Bonding conditions

Hughes 2460-III Automatic Gold Wire Bonder, stage 150°C, ceramic tool, 1.0 mil Au wire, tensile strength 8g min, elongation 3 to 5%. Hughes 2456-III Automatic Gold Wire Bonder, stage 150°C, ceramic tool, 2.0 mil Au wire, tensile strength 40-45g, elongation 3 to 5%. K&S; Model 4123 Ultrasonic Wedge Bonder, tool #41471-2535-152, 1.0 mil Al wire (1% silicon).



Properties

Information in this datasheet shows anticipated typical physical properties for Micromax™ 5771 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