

Micromax™ 5780R

Electronic Inks & Pastes

PRODUCT DESCRIPTION

Gold Bondable AU Conductor

Micromax™ 5780R is a very high density gold conductor composition. Suitable for applications requiring high frequency and/or fine line conductor features.

Product benefits

- Lead, Phthalate and Cadmium free*
- Excellent for fine line features
- Excellent wire bond acceptance yields with 1&2 mil Au wire
- Dense fired film
- Smooth surface appearance
- REACH and RoHs compliant
- Compatible with Micromax™ Pb-free Resistor Series and Dielectric QM44

*Lead, Phthalate and Cadmium 'free' as used herein means that lead, phthalate and cadmium are not intentional ingredients in and are 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™ 8250	
Solid content ¹	87 to 89	%

TECHNICAL DATA

Rheological Properties	Value	Unit
Viscosity ²	300 to 400	Pa.s

Application Technique	Value Unit
Mask mesh	325 to 400
Mask emulsion	12.5 μm
Drying time	15 min
Drying temperature	150 $^{\circ}\text{C}$
Theoretical coverage	60 to 90 cm^2/g
Recommended film thickness	6 to 9 μm
Print resolution	150 μm
Print resolution	100 μm
Leveling time	10 to 15 min

Electrical Properties	Value Unit
Resistivity	≤ 5 mOhm per square

Storage and Stability	Value Unit
Shelf life ³	6 months

¹750 $^{\circ}\text{C}$

²Brookfield 2xHAT, UC&SP, SC4-14/6R, 10 rpm, 25 $^{\circ}\text{C}$

³in unopened containers, from date of shipment, stable environment at room temperature between 5 $^{\circ}\text{C}$ - 30 $^{\circ}\text{C}$

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 or 400-mesh stainless steel screen with a 12.5 μm (0.5mil) emulsion thickness is recommended. Printing speeds up to 15cm/s (6in/s) can be used.

Drying

Allow the wet print to level for 10-15 minutes at room temperature. Dry for 15 minutes at 150 $^{\circ}\text{C}$.

Firing

Dried prints should be fired in a belt furnace. Use a 30-minute cycle with a peak temperature of 850 $^{\circ}\text{C}$ for 10 minutes. No significant changes in performance characteristics were seen after multiple refires at 850 $^{\circ}\text{C}$.

Typical Fired Properties

Test	Properties
Gold Wire Bonding* ¹	1 mil Au wire >8g 2 mil Au wire >35g 1 mil no misses in 1600 trials 1 mil Au on QM44 wire >8g

*¹ Printed on Alumina

Information in this datasheet shows anticipated typical physical properties for Micromax™ 5780R 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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