Micromax™ 5742

Electronic Inks & Pastes

PRODUCT DESCRIPTION

Gold-Cofireable Conductor

Micromax™ 5742 is intended for use as a co-fired gold conductor for Micromax™ GreenTape™ 951 System. Micromax™ 5742 can be used as an internal or external conductor for all gold systems or as an external conductor on traditional mixed metal systems. Micromax™ 5742 is wire bondable with 1 mil Au and 1 mil Al wire.

Product benefits

When used with GreenTape™ 951 compatible via fill pastes, Micromax™ 5742 offers the following benefits:

- High reliability
- High conductivity
- High circuit density
- Au and Al wire bondable (1 mil)

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

PRODUCT INFORMATION

General Properties	Value	Unit
Application	Gold conductor	
Solvent or thinner	Micromax™ 8250	
Solid content[1]	79.5 to 81.5	%

TECHNICAL DATA

Rheological Properties	Value	Unit
Viscosity[2]	100 to 180	Pa.s

Application Technique	Value	Unit
Mask mesh[3]	325	

Application Technique	Value	Unit
Mask emulsion	12	µm
Drying time	5 to 10	min
Drying temperature	80 to 120	°C
Theoretical coverage[4]	80 to 90	cm²/g
Recommended film thickness	13 to 18	µm
Recommended film thickness	6 to 12	µm
Print resolution[5]	125	µm
Print resolution[6]	125	µm
Leveling time	5 to 10	min

Electrical Properties	Value	Unit
Resistivity[7]	≤5	mOhm per square

Storage and Stability	Value	Unit
Shelf life[8]	6	months

[1]750°C
[2]Brookfield HAT #14 Spindle; 10 RPM @ 25°C
[3]Screen Types: Stainless steel
[4]Calculated at a wet thickness of 25µm
[5]Dried Line Resolution
[6]Dried Line Resolution
[7]@9µm fired thickness
[8]in unopened containers, from date of shipment, stable environment at room temperature between 5°C - 30°C

PROCESSING GUIDELINES

Design & compatibility

Design compatibility

Micromax™ has tested this composition with the GreenTape™ 951 System. It is impractical to cover every combination of materials, customer processing conditions and circuit layout. It is therefore essential that customers thoroughly evaluate the material in specific situations to completely satisfy themselves with the overall quality and suitability of the composition for its intended application(s).

Substrates

Micromax™ GreenTape™ 951

Printing

The composition should be thoroughly mixed prior to use. This is best achieved by slow, gentle, hand- stirring with a clean, burr-free, flexible plastic spatula for 1 – 2 minutes. Care must be taken to avoid air entrapment.

Printing should be performed in a clean, well- ventilated area. Optimum printing characteristics are generally achieved in the room temperature range of 20 – 23°C. It is therefore important that the material, in its container, is at this temperature prior to printing.

Print Micromax™ 5742 directly onto un-fired GreenTape™ 951 using thick film printing methods and a vacuum stone or other support structure that uniformly distributes vacuum.

Thinning

This composition is optimized for screen printing; however, thinning may be required periodically to replenish solvent loss due to evaporation. Use the Micromax™ recommended thinner Micromax™ 8250 for slight adjustments to viscosity. The use of too much thinner or the use of non-recommended thinner may affect the rheological behavior of the material and its printing characteristics.

Clean-up solvent

1-Proxy-2- Propanol

Drying

Allow prints to level at room temperature and then dry in a well-ventilated oven or conveyor dryer. Typical drying conditions can range between 80 – 120°C for 5 – 10 minutes.

Do not over dry.

Lamination

Laminate external tape layers printed with multiple sheets of GreenTape™ using the recommended processing parameters outlined in the GreenTape™ Design Guideline and the GreenTape™ 951 product data sheets. Typical lamination conditions are 3000 psi at 70°C for 10 minutes.

Firing

Consult the GreenTape™ 951 technical data sheets for firing recommendations. Fire in a well-ventilated conveyor or static furnace with optimized air flows and extraction rates to ensure oxidizing conditions within the firing zone. Contact your Micromax™ technical representative for details.

Properties

Information in this datasheet shows anticipated typical physical properties for Micromax™ 5742 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

www.macdermidalpha.com

North America	**Europe**	**Asia**
470 Research Drive Wilmington, DE, USA 855.622.7813	Bristol & Bath Science Park Dirac Crescent, Emersons Green, Bristol, BS16 7FR, United Kingdom 44.117.4769148	No. 45 Hsing-Point Road Taoyuan City, 330457 Taiwan 886.3.3773588

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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