

Micromax™ 5448

Electronic Inks & Pastes

PRODUCT DESCRIPTION

Carbon Paste

Micromax™ 5448 is a polymer-based, platable carbon paste printable on a variety of substrates. This composition usually will be applied over a fired-on silver that provides sulfur-proof layer for chip components.

Product benefits

- Excellent conductivity
- Excellent printed resolution
- Good adhesion on both fired silver and alumina substrates
- Good platability
- Cadmium, Lead, Nickel and Phthalate free*

*Cadmium, Lead, Nickel and Phthalate 'free' as used herein means that cadmium, lead, nickel, and phthalate 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	Carbon paste
Solvent or thinner	Micromax™ 9245
Solid content ¹	50 to 56 %

TECHNICAL DATA

Rheological Properties	Value Unit
Viscosity ²	60 to 80 Pa.s

Application Technique	Value Unit
Mask mesh	250

Application Technique	Value	Unit
Mask emulsion	10 to 15	µm
Drying time	10	min
Drying temperature	150	°C
Recommended film thickness	10 to 15	µm
Leveling time	5	min

Electrical Properties	Value	Unit
Resistivity ³	5 to 15	Ohm per square

Storage and Stability	Value	Unit
Shelf life ⁴	3	months

¹150°C

²Brookfield HBT, SC4-14/6R, 10 rpm, 25°C

³at 25.4µm

⁴in unopened containers, from date of shipment, stable environment at refrigerated temperature between 0°C - 5°C

PROCESSING GUIDELINES

Substrates

Ceramic, glass, Cu foil, glass epoxy, paper

Printing

10-15µm cured thickness can be achieved using 250 mesh stainless steel screen with an emulsion thickness of 10-15µm.

Drying

Allow wet prints to level for 5 minutes at room temperature. Dry 10 minutes at 150°C in a well-ventilated oven, or belt dryer. Drying process can be skipped and directly cured depending on the application.

Curing

This composition is best cured at 200°C for 10 minutes or 180°C for 30 minutes. Variation in the curing temperature may result in variation in the final properties.

Plating

Chips terminated with Micromax™ 5448 and processed as recommended can be electroplated in conventional processes.

Properties

Information in this datasheet shows anticipated typical physical properties for Micromax™ 5448 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 refrigerated temperature between 0°C - 5°C. Storage at room temperature is not recommended. Shelf life of material in unopened containers is 3 months from date of shipment. Gradual polymerization and associated viscosity increase, and mechanical separation can be expected over a period of a few months. When refrigerating conditions are used for storage, materials should be allowed to equilibrate to room temperature before opening to prevent pick up of moisture from condensation. After the containers are opened, use and storage conditions and the possible effects of contamination make shelf limits unpredictable.

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 & 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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