

Micromax™ 5424E

Electronic Inks & Pastes

PRODUCT DESCRIPTION

Platable Termination for Chip Resistor Applications

Specially developed for chip resistors applications, Micromax™ 5424E is a platable, lead-free*, cadmium-free* silver palladium C1 termination that meets the needs of a high performance and green product.

Product benefits

- Cadmium, Lead, Nickel and Phthalate free*
- High acid resistance
- Excellent solder leach resistance with lead-free solder
- Good control of the printed line shape for small chip sizes
- Platable
- Fast firing, 850oC/30min profile
- 2% Palladium content
- Compatible with Micromax™ 00X1Z(00X0) resistor series

*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	Resistor termination
Solvent or thinner	Micromax™ 4553
Solid content ¹	75.6 to 77.6 %
Fineness Of Grind	≤20 µm
Fineness Of Grind	≤10 µm

TECHNICAL DATA

Rheological Properties	Value Unit
Viscosity ²	210 to 260 Pa.s

Application Technique	Value Unit
Mask mesh	325
Mask emulsion	15 µm
Drying time	10 min
Drying temperature	150 °C
Recommended film thickness	16 to 20 µm
Leveling time	5 to 10 min

Electrical Properties	Value Unit
Resistivity ³	≤10 mOhm per square

Storage and Stability	Value Unit
Shelf life ⁴	6 months

¹750°C

²Brookfield HBT, #14 spindle, UC&S₁, 10 rpm, 25°C

³at 12µm

⁴in 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 variation in performance properties.

Printing

Properties are based on 5424E printed to 18±2µm dried thickness using 325 mesh stainless steel screen with an emulsion thickness of approximately 15µm.

Drying

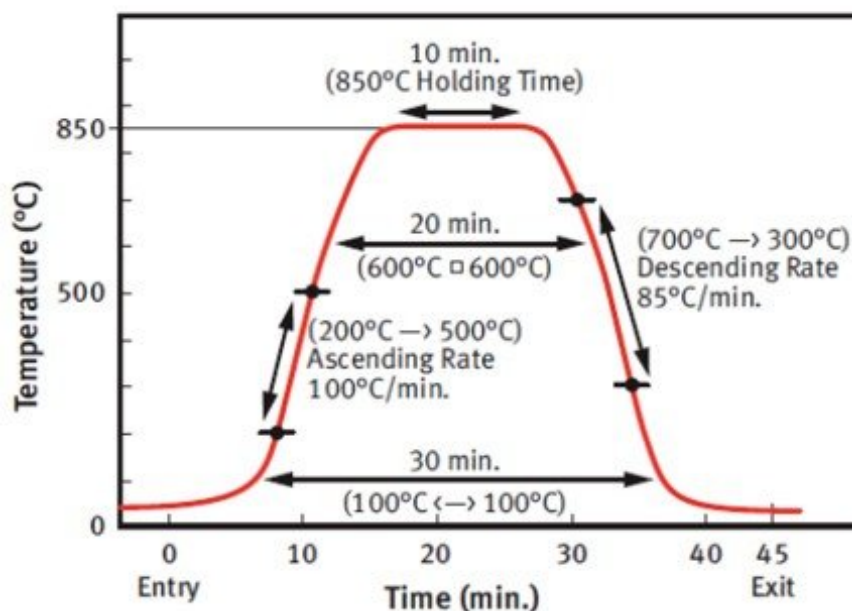
Allow wet prints to level for 5-10 minutes at room temperature. Dry for 10 minutes at 150°C.

Firing

Dried prints should be fired in a belt furnace. Use a 30-minute cycle with a peak temperature of 850°C for 10 minutes.

Micromax™ Standard Profile 850°C x 10 min., 30 min.

(Micromax™ QA Profile)



Typical Fired Properties

Test	Properties
Adhesion (N)	>=18

Information in this datasheet shows anticipated typical physical properties for Micromax™ 5424E 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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