

Micromax™ THR61

Electronic Inks and Pastes

Silver/Platinum Through-Hole Fill Composition

Micromax™ THR61 is a 100:1 silver/platinum through-hole conductor designed to fill holes in alumina and AlN (aluminum nitride) substrates. It creates a highly conductive (electrically & thermally) front-to-back interconnect with reduced capacitance effects associated with coated through-holes in high frequency applications. It also provides a simple, low cost method to create surface planarity of thermal, and buried vias for double side and multilayer circuits using conventional equipment. Micromax™ THR61 is specifically formulated for minimal shrinkage from the dried to the fired state. Its low shrinkage makes Micromax™ THR61 ideal for filling 6-25mil diameter holes in 10-25mil thick substrates.

Product benefits

- High Electrical Conductivity
- High thermal conductivity enables circuit designers to use filled vias to improve thermal management alumina substrates
- No shrinkage away from side walls of 96% alumina substrates
- Dense and Planar Fill
- Single-step Processing
- 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.

Product information

Solvent or thinner	Micromax™ 9450
Solid content	92.5 - 94.5 ^[1] %
[1]: 750 °C	

Rheological properties

Viscosity	5000 - 8000 ^[2] Pa.s
[2]: Brookfield HBT, #14 spindle & UC, 1 rpm, 25 °C	

Application technique

Drying time	10 min
Drying temperature	150 °C
Leveling time	5 - 10 min

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Electrical properties

Surface resistivity

4 - 7^[3] mOhm per square

[3]: at 25µm fired thickness

Storage and stability

Shelf life

6^[4] months

[4]: in unopened containers, from date of shipment, at temperature <25°C

Additional information

How to use

Processing

• Printing

- Micromax™ THR61 is formulated for use with either a screen printer or extrusion bladder filler. A stencil is recommended for achieving a uniform and void free fill.

• Drying

- Allow the filled through-holes to level for 5-10 minutes at room temperature, then dry for 10 min. at 150° C in a well ventilated oven or belt dryer. Additional drying time may be needed for large diameter holes or if there is poor airflow in the dryer.

• Firing

- Fire in a well ventilated conveyor furnace, in air using the standard 30 min cycle profile with a peak temperature of 850°C.

Properties

Composition Properties

Test	Properties
Ag : Pt Ratio	100 : 1

Information in this datasheet shows anticipated typical physical properties for Micromax™ THR61 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 (<25°C). Shelf life of material in unopened containers is six months from date of shipment. Some settling of solids may occur and compositions should be thoroughly mixed prior to use.

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Safety and handling

For safety and handling information pertaining to this product, read Safety Data Sheet (SDS).

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