

Page: 1 of 3

MicromaxTM CB500

Microcircuit and Component Materials

Removable Conductive Silver Plating Ink For Printed Circuit Boards

MicromaxTM CB500 was developed for electroplating applications for the Printed Circuit Board (PCB) market. This product eliminates the need for bus bars or other copper connections and removes the need for "after plating", ultimately reducing process cost. This composition was designed to be applied using standard screen printing equipment and designed to be removed easily after plating.

Product benefits

- Reduces cost and process steps for electroplating applications
- No residual ink on board after strip (avoid stud bump antenna effect)
- Low temperature processing
- Low resistance
- Can be used in a wide variety of applications on various substrates (epoxy glass, polyimide films, ceramic and other flexible and rigid substrates)

Product information

Solvent or thinner	Micromax™ 8250
Solid content	77 - 85 %

Rheological properties

Visco	sity		30 - 60 ^[1] Pa.s

[1]: Brookfield RVT, #14 spindle &UC, 10 rpm, 25°C

Application technique

[3]: at 25µm thickness[4]: 325 mesh stainless steel[5]: 125µm/125µm artwork

Printed: 2023-03-30

Mask mesh	325 ^[2]
Mask emulsion	12.5 ^[2] μm
Drying time	10 min
Drying temperature	120 - 140 °C
Theoretical coverage	30 - 40 ^[3] cm ² /g
Recommended film thickness, dried	23 - 27 ^[4] μm
Print resolution, lines	≤175 ^[5] µm
Print resolution, spaces	≥75 µm
Leveling time	5 - 10 min
[2]: stainless steel	

Revised: 2023-03-28 Source: Celanese Materials Database



MicromaxTM CB500

Microcircuit and Component Materials

Electrical properties

Surface resistivity ≤100^[3] mOhm per square

[3]: at 25µm thickness

Storage and stability

Shelf life 6^[6] months

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

Additional information

How to use

Processing recommendations

 This document reflects standard processes, including those commonly used for typical screen printing of electronic inks. Processes may vary by application. Please contact us for specific processing recommendations.

Processing

Clean copper

 The copper surface must be cleaned/prepared (e.g. pumice scrub) before printing the Micromax™ CB500.

Printing

 MicromaxTM CB500 can be applied using a 325 mesh stainless steel screen with 12.5μm (0.5mil) emulsion to achieve a cured thickness of 25μm (±2μm). Excessive print thickness may result in difficulty stripping MicromaxTM CB500. Other screen meshes and/or polyester screens can be used but may yield a different conductor thickness. Recommended minimum line width is 175-250μm depending on screen selection.

Work life

∘ > 1 hour

Drying and curing

- Allow the wet print to level for 5-10 minutes at room temperature prior to drying. Dry for 10 minutes at 120-140 °C in a well ventilated box oven or conveyor dryer where the exhaust meets environmental regulations.
- Note: Higher cure temperatures may result in difficulty stripping the Micromax™ CB500. See Safety and handling section for additional information.

Plating resist

 Apply a dry film or a screen printable plating resist directly over Micromax™ CB500 using the vendors recommended

Printed: 2023-03-30 Page: 2 of 3

Revised: 2023-03-28 Source: Celanese Materials Database



MicromaxTM CB500

Microcircuit and Component Materials

process. Ensure that MicromaxTM CB500 is completely covered with the plating resist. Recommended overlap is \geq 250µm. For selective image, use 2.5-3mil dry film and vacuum laminate for optimal confirmation.

- Plating
 - Electroplate the desired circuitry.
- Strip plating resist
 - Use standard resist strip (MEA-based). Strip plating resist using vendor's recommended process. Typically MicromaxTM CB500 will be removed along with the plating mask. Resist stripping in dip tanks may require a double pass and nylon brushing followed by high pressure water spray.

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.

Safety and handling

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

Printed: 2023-03-30 Page: 3 of 3

Revised: 2023-03-28 Source: Celanese Materials Database

NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colourants or other additives may cause significant variations in data values. Properties of moulded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design conditions and environmental exposure. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users seek and adhere to the manufac

© 2023 Celanese or its affiliates. All rights reserved. Celanese®, registered C-ball design and all other trademarks identified herein with ®, TM, SM, unless otherwise noted, are trademarks of Celanese or its affiliates. Fortron is a registered trademark of Fortron Industries LLC. KEPITAL is a registered trademark of Korea Engineering Plastics Company, Ltd.