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# Micromax™ CB028

## Microcircuit and Component Materials

## Silver Conductor

Micromax™ CB028 silver conductor is used to provide electromagnetic interference/radio frequency interference (EMI/RFI) shielding on-board or to fabricate low-voltage circuitry, on rigid or flexible substrates. It can be used with manual or automatic screen printing equipment.

## Product benefits

- Superior conductivity
- Fine line printing capability
- Excellent flexibility

## Product information

| | |
|---|---|
| Solvent or thinner | Micromax™ 3610 |

## Rheological properties

| | | |
|---|---|---|
| Viscosity | 15 - 30[1] | Pa.s |

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

## Application technique

| | | |
|---|---|---|
| Mask mesh | 200[2] | |
| Drying time | 60[3] | min |
| Drying temperature | 160[3] | °C |
| Theoretical coverage | 120 - 230[4] | $cm^2/g$ |
| Recommended film thickness, dried | 8 - 10[5] | µm |

[2]: stainless steel

[3]: box oven

[4]: dependent on print thickness

[5]: 200-mesh stainless steel

## Electrical properties

| | | |
|---|---|---|
| Surface resistivity | ≤12[6] | mOhm per square |

[6]: at 25µm thickness

# Micromax™ CB028

Microcircuit and Component Materials

## Storage and stability

| | |
|---|---|
| Shelf life | 6[7] months |

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

## Additional information

How to use

## Processing

- Substrates
  - Epoxy glass, polyimide film
- Screen types
  - Stainless steel, polyester
- Printing
  - Reel-to-reel, semi-automatic, manual
- Typical circuit line thickness
  - Printed with 200-mesh stainless steel screen : 8 - 10 µm
- Work life
  - > 1 hour
- Clean-up solvent
  - Ethylene diacetate or Methyl propasol acetate
- Drying
  - Box oven : 160°C (320°F) for 60 min
- Maximum temperature exposure
  - Lamination temperature >175°C may cause delamination of the Micromax™ CB028

## Properties

Typical Physical Properties

| Test | Properties |
|---|---|
| Resistivity after Flex (mΩ/sq/25.4µm) (15sec after test crease, 180°C, 1 cycle) | 100 |
| Abrasion Resistance, Pencil Hardness (ASTM D3363-74) [H] | ≥ 2 |
| Soldering | Not Recommended |
| %TML (Total Mass Loss) ATSM E595 (NASA Out gassing, Specification < 1.0%) | 0.18 |

# Micromax™ CB028

Microcircuit and Component Materials

| | |
|---|---|
| %CVCM (Collectible Volatile Condensable Material) ATSM E595 (NASA Out gassing, Specification < 0.1%) | 0.01 |
| Change in Physical Properties after Environmental Tests | Insignificant |
| Change in Electrical Properties after Environmental Test*, (%) | < 10 |

*Environmental Test
A. Thermal Shock (+85°C to -40°C, 30 min each, cycle)
B. Dry Heat (+85°C, 10 days)
C. Humidity (+40°C, 95% RH, 10 days) [MIL Std 202E, method 103, cond. A]
D. Salt Spray (+35°C, 5% salt, 10 days) [ASTM B117]
E. Silver Migration (1 V DC/mil gap, +40°C, 90% RH, 500hr., tested on 40-and 7-mil gaps)
F. Sulfur Dioxide (+45°C, 90% RH, 400hr, in a 9-liter chamber containing 500 mg of flowers of sulfur)

Information in this datasheet shows anticipated typical physical properties for Micromax™ CB028 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.

## Safety and handling

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

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