

# Micromax™ 5065

## Electronic Inks and Pastes

### Silver Conductor

Micromax™ 5065 silver conductor was developed for the Printed Electronics market and is particularly well suited for RFID applications where low as-printed resistance is a requirement. This product uses a unique combination of Ag powder and resin technology providing superior conductivity and performance. This composition is solvent-based and was designed to be screen printed in semi-automatic or high volume reel-to-reel applications.

### Product benefits

- Good printability
- Superior RFID performance in UHF and HF range (with low and high track thickness respectively)
- Outstanding electrical conductivity
- High paste coverage
- Excellent adhesion to various substrates

### Product information

|                    |                |
|--------------------|----------------|
| Solvent or thinner | Micromax™ 8260 |
| Solid content      | 68 - 71 %      |

### Rheological properties

|           |              |
|-----------|--------------|
| Viscosity | 10 - 20 Pa.s |
|-----------|--------------|

### Application technique

|                                   |                                       |
|-----------------------------------|---------------------------------------|
| Mask mesh                         | 200                                   |
| Drying time                       | 10 <sup>[1]</sup> min                 |
| Drying temperature                | 130 <sup>[1]</sup> °C                 |
| Theoretical coverage              | 170 <sup>[2]</sup> cm <sup>2</sup> /g |
| Recommended film thickness, dried | 10 - 12 µm                            |

[1]: box oven

[2]: using screen type 200 mesh polyester, printed on 125µm PET film

### Typical mechanical properties

|                       |                         |
|-----------------------|-------------------------|
| Adhesion, cross hatch | 5B <sup>[3]</sup> class |
|-----------------------|-------------------------|

[3]: ASTM x-hatch, no material removal

### Electrical properties

|                     |                                    |
|---------------------|------------------------------------|
| Surface resistivity | ≤10 <sup>[4]</sup> mOhm per square |
|---------------------|------------------------------------|

[4]: @25µm, Printed on 125µm PET film

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## Electronic Inks and Pastes

### Storage and stability

Shelf life

6<sup>[5]</sup> months

[5]: in unopened containers, from date of shipment, at room temperature (<25°C)

### Additional information

How to use

### Processing

- **Substrates**
  - Polyester, paper, card
- **Screen types**
  - Polyester, stainless steel
- **Printing**
  - Reel-to-reel, semi-automatic, manual.
- **Typical circuit line thickness**
  - Printed with 200-mesh polyester screen
  - 10 - 12 µm
- **Clean-up solvent**
  - Ethylene diacetate or Methyl propasol acetate
- **Drying**
  - Box oven : 130°C for 10 min
  - Reel-to-reel : 140°C for 2 min
  - Dry in a well-ventilated box oven or belt/conveyor furnace. Air flow and extraction rates should be optimized to ensure complete removal of solvent from the paste. A strong air flow may help to reduce the drying temperature/time considerably and to achieve the lowest as-printed resistance.

### Properties

Typical Physical Properties Printed on 125µm PET film

| Test                                            | Properties |
|-------------------------------------------------|------------|
| Abrasion Resistance, Pencil Hardness (ASTM) [H] | 5          |

Information in this datasheet shows anticipated typical physical properties for Micromax™ 5065 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

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## Electronic Inks and Pastes

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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