Micromax™ PE410

Electronic Inks and Pastes

Ink-Jet Silver Conductor

Micromax™ PE410 is a new silver ink-jet ink from Micromax™ Advanced Materials enabling rapid digital prototyping and high volume production in applications with demanding requirements for conductivity, thickness, smoothness and line resolution. Micromax™ PE410 ink-jet silver ink displays the stable jetting performance needed for high volume non-contact, digitally printed metallizations in applications such as touch panels, solar cells, OLED lighting and printed antennae. Micromax™ PE410 has a low sintering temperature suitable for printing on PET and shows good chemical compatibility and adhesion on multiple surface types or organic layers.

Product benefits

- Outstanding electrical conductivity
- Outstanding electrical conductivity
- High print thickness for ink-jet process
- Excellent adhesion to various substrates
- Smooth sintered surface

Product information

Colour	Brown[1]	
Solid content	45.2[2]	%

[1]: Dark Blown

[2]: 150 °C

Rheological properties

Viscosity	0.02 - 0.04[3]	Pa.s

[3]: Bohlin, cone and plate 1°, 40mm, 25 °C

Application technique

Drying time	20	min
Drying temperature	130	°C

Electrical properties

Surface resistivity	≤5[4]	mOhm per square

[4]: at 25µm & 130 °C, in the case of at 150 °C, ≤4, at 190 °C, ≤3

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Storage and stability

Shelf life	6[5] months

[5]: refrigerated ≤ 5 °C

Additional information

How to use

Processing

- Substrates
  - PET (eg.Melinex® ST504), glass, PEN, ITO
- Handling recommendation
  - Shake well before use
  - If sedimentation occurs, jar roll for 60 minutes or planetary centrifugal mix for 10 seconds at 2000 rpm
- Ink-Jet printing
  - PiXDRO LP50 with Konica Minolta print head (512S)
  - FUJIFILM Dimatix Material Printer
  - Printing should be performed in a clean, well-ventilated area. Optimum printing characteristics are generally achieved when the room and ink container temperatures are in the 20-23 °C range.
- Typical circuit line thickness
  - Printed with DMCLCP 10 pl with drop spacing 30
  - ~ 500 nm for 1 px line
  - ~ 1.5 µm for 20 px line
- Drying
  - Box oven : 130ºC for 20 minutes (substrate dependent)

Properties

Physical Properties

Test	Properties
Abrasion Resistance, Pencil Hardness (ASTM D3363) [H]	3

Information in this datasheet shows anticipated typical physical properties for Micromax™ PE410 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 refrigerated condition (0~5 °C). Shelf life of material in unopened containers is six months from date of shipment with refrigerated storage condition (5 °C). Some

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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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