Micromax™ BQ10

Electronic Inks and Pastes

UV Curable Dielectric

Micromax™ BQ10 is a UV curable, solventless, screen printable composition used in encapsulant and crossover applications for Bio Sensor applications. It offers the advantages of rapid cure and excellent processing latitude while maintaining excellent electrical and physical properties after cure, including excellent crosshatch adhesion to polyester and poycarbonate substrates and conductors. It is fully compatible with the Micromax™ Bio sensor conductor compositions.

Product benefits

- Fast UV cure
- Zero VOC when properly cured
- Adhesion to polyester and polycarbonate substrates

Product information

Colour	Green	
Odour	Slight[1]	
Solvent or thinner	Not recommended	
Density	1.28	g/cm^3
Solid content	22 - 26[2]	%
Maximum Service Temperature	105	°C

[1]: Slight, pleasant

[2]: 150°C

Rheological properties

Viscosity	30 - 70[3]	Pa.s

[3]: Brookfield RVT, #14 spindle, 10 rpm, 25°C

Application technique

Mask mesh	200[4]	
Theoretical coverage	290[5]	cm^2/g
Recommended film thickness	12.7 - 15.3[6]	µm

[4]: Screen Types: Stainless steel

[5]: at 25.4µm coating given by 280-mesh stainless steel

[6]: after UV cure per print, 200 mesh stainless steel

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Typical mechanical properties

Adhesion, cross hatch	5B[7]	class

[7]: Dielectric to ITO-coated Polyester Scotch Tape #600, and Conductor to Dielectric, ASTM D3359-78.

Electrical properties

Dielectric Constant	4.4[8]	
Insulation Resistance, DC	≥1E10	Ohm

[8]: ASTM D150, at 1 KHz

[9]: sq at 25.4µm

Storage and stability

Shelf life	6[10]	months

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

Additional information

How to use

Processing

- Substrates
  - Polyester; polycarbonate
- Screen types
  - Polyester, stainless steel
- Printing
  - Semiautomatic and manual
- Typical thickness (after cure per print)
  - Printed with 200 mesh stainless steel screen
  - 0.5 - 0.6 mils
- Work life
  - > 2 hours
- Curing
  - 40 ft/min in air 500 - 1500 mJ/cm
  - Two prints of dielectric are strongly recommended to achieve maximum circuit reliability.

Properties

Typical Physical Properties on ITO Polyester Film & Composition Properties

Test	Properties
Abrasion Resistance, Pencil Hardness (ASTM D3363-74) [H]	≥ 1
Coverage* (cm^2/g) 280-mesh	0.45 mil

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polyester	
Coverage* (cm^2/g) 230-mesh polyester	0.6 mil
Coverage* (cm^2/g) 200-mesh stainless steel	1.1 mil

*Dependent on print thickness

Information in this datasheet shows anticipated typical physical properties for Micromax™ BQ10 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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