

# Micromax<sup>TM</sup> BQ10

### Flectronic Inks and Pastes

#### **UV Curable Dielectric**

Micromax<sup>TM</sup> 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<sup>TM</sup> 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 <sup>[1]</sup>	
Solvent or thinner	Not	
	recommended	
Density		g/cm <sup>3</sup>
Solid content	22 - 26 <sup>[2]</sup>	%
Maximum Service Temperature	105	°C
[1]: Slight, pleasant		
[2]: 150°C		

#### Rheological properties

Application technique

Viscosity	30 - 70 <sup>[3]</sup>	Pa.s
[3]: Brookfield RVT, #14 spindle, 10 rpm, 25°C		

Mask mesh	$200^{[4]}$
Theoretical coverage	290 <sup>[5]</sup> cm <sup>2</sup> /g
Recommended film thickness	12.7 - 15.3 <sup>[6]</sup> 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

Printed: 2023-09-21 Page: 1 of 3

Revised: 2023-06-26 Source: Celanese Materials Database



### Micromax<sup>TM</sup> BQ10

#### **Electronic Inks and Pastes**

### Typical mechanical properties

Adhesion, cross hatch 5B<sup>[7]</sup> class

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

#### Electrical properties

Dielectric Constant 4.4<sup>[8]</sup>
Insulation Resistance, DC  $\geq$ 1E10 Ohm

[8]: ASTM D150, at 1 KHz

[9]: sq at 25.4µm

#### Storage and stability

Shelf life 6<sup>[10]</sup> 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
  - o 0.5 0.6 mils
- Work life
  - ∘ > 2 hours
- Curina
  - 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* (cm²/g) 280-mesh	0.45 mil

Printed: 2023-09-21 Page: 2 of 3

Revised: 2023-06-26 Source: Celanese Materials Database



# Micromax<sup>TM</sup> BQ10

#### **Electronic Inks and Pastes**

polyester	
Coverage* (cm²/g) 230-mesh polyester	0.6 mil
Coverage* (cm²/g) 200-mesh stainless steel	1.1 mil

<sup>\*</sup>Dependent on print thickness

Information in this datasheet shows anticipated typical physical properties for Micromax<sup>TM</sup> 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).

Printed: 2023-09-21 Page: 3 of 3

Revised: 2023-06-26 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. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been 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, pr

© 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.