



# DUPONT™ BQ10

## UV CURABLE DIELECTRIC

### PRODUCT DESCRIPTION

DuPont™ 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 polycarbonate substrates and conductors. It is fully compatible with the DuPont Bio sensor conductor compositions.

### PRODUCT BENEFITS

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

### PROCESSING

#### Screen Printing Equipment

Semiautomatic and manual

#### Substrates

Polyester; polycarbonate

#### Ink Residence Time on Screen

> 2 hours

#### Screen Types

Polyester, stainless steel

#### Optimum Cure Conditions for Flexibility

40 ft/min in air<sup>1</sup>  
500 - 1500 mJ/cm\*

#### Typical Thickness

(After cure per print)

Printed with 200 mesh stainless steel screen 0.5-0.6 mils

\*Two prints of dielectric are strongly recommended to achieve maximum circuit reliability.

**Table 1-Typical Physical Properties and Electrical Properties on ITO Polyester Film**

Test	Properties
Adhesion Crosshatch (ASTM D3359-78) Dielectric to ITO-coated Polyester/Scotch Tape#600	No transfer (5B)
Conductor to Dielectric	No transfer
Abrasion Resistance, Pencil Hardness (ASTM D3363-74) [H]	≥ 1
Operating Use Temperature (°C)	<= 105°C
Dielectric Constant (ASTM D150)[@ 1KHz]	4.4
Insulation Resistance [GΩ/sq/mil]	> 10

**Table 2-Composition Properties**

Test	Properties
Viscosity (Pa.s) [Brookfield RVT, 10 rpm, #14 spindle, 25°C]	30-70
Solids (150°C)[%]	100
Coverage (cm <sup>2</sup> /g) (Dependent on print thickness): 0.45 mil coating given by 280-mesh polyester 0.6 mil coating given by 230-mesh polyester 1.0 mil coating given by 280-mesh stainless steel 1.1 mil coating given by 200-mesh stainless steel	500 375 290 240
Thinner	Not recommended
Density, g/cm <sup>3</sup>	1.28
Color	Green
Odor	Slight, pleasant

Table 1 & 2 show anticipated typical physical properties for DuPont™ 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.



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### 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 the Material Safety Data Sheet (MSDS).

### FOR MORE INFORMATION ON DUPONT™ BQ10 OR OTHER DUPONT MICROCIRCUIT MATERIALS, PLEASE CONTACT YOUR LOCAL REPRESENTATIVE:

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CAUTION: Do not use in medical applications involving permanent implantation in the human body. For other medical applications, see "DuPont Medical Caution Statement," H-50102-5 K-28877 (5/15)