

# DuPont™ BQ221

## Carbon Conductive Composition

### Product Description

DuPont™ BQ221 is a highly active carbon conductor designed as a working electrode for high sensitivity biosensor. It may be used on both PET and Polycarbonate substrates

### Product Benefits

- High Sensitivity
- Low Resistivity
- Compatible with variety of silver conductors

### Processing

#### Screen Printing Equipment

Reel-to-reel, semi-automatic or manual

#### Ink Residence Time on Screen

>1 Hour

#### Screen Types

Polyester, stainless steel

#### Typical Cure Conditions

Box oven: 130°C for 5-10 minutes

Reel-to-reel: 140°C for 1 minute

#### Typical Circuit Line Thickness Printed with 200-mesh Stainless Steel Screen

8-12 microns

#### Clean-Up Solvent

Ethylene diacetate or methyl propasol acetate

**Table 1 - Composition Properties**

| Test   | Properties   |
|--|--------------|
| Solids (150°C) [%]   | 32.0 - 34.0  |
| Viscosity (Pa.S) [Brookfield RVT, spindle#14, 10rpm, 25°C] | 35-85        |
| Coverage (cm <sup>2</sup> /g @ 12.5 microns)               | 200          |
| Thinner  | DuPont™ 8260 |

**Table 2 - Typical Physical Properties on 5-mil Polyester Film**

| Test   | Properties      |
|--|-----------------|
| Sheet Resistivity (mΩ/sq/mil)                            | < 100           |
| PET, untreated (B)                                       | 5               |
| Abrasion Resistance, Pencil Hardness (H) (ASTM D3363-74) | 4               |
| Solder   | Not Recommended |

Tables 1 and 2 show anticipated typical physical properties for DuPont™ BQ221 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

BQ Series compositions should be stored in a clean, stable environment at room temperature (~25°C) with their lids tightly sealed. Storage in high temperature (>30°C) or in freezers (<0°C) is NOT recommended as this could cause irreversible changes in the material. The shelf life of compositions in factory-sealed (unopened) containers stored under room temperature (~25°C) conditions is 6 months from the date of shipment. Some settling of solids may occur over time, so composition should be stirred thoroughly before use.

### Safety and Handling

For Safety and Handling information pertaining to this product, read the Material Safety Data Sheet (MSDS).



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For more information on DuPont™ BQ221 or other DuPont products, please visit our website.

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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 and "DuPont Policy Regarding Medical Applications" H-50103-5.

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