Product Description
DuPont BQ331 is a gold composition designed for working electrodes in biosensor and polymer thick film (PTF) sensors. It provides high signal to noise ratios (high sensitivity) in a multiplicity of designs. It can be used on both flatbed and reel-to-reel manufacturing lines.

Product Benefits
- High Sensitivity
- Strong Adhesion to a variety of polyethylene teraphthalate (PET) substrates

Processing
- Screen Printing Equipment
  Reel-to-reel, semi-automatic or manual
- Ink Residence Time on Screen
  > 1 hour
- Screen Type
  Polyester, stainless steel
- Typical Cure Conditions
  Box Oven: 130°C for 5 - 10 minutes
  Reel-to-reel: 140°C for 1 minutes
- Typical Circuit Line Thickness Printed with 200-mesh stainless screen
  12 - 15 microns
- Clean-up Solvent
  Ethylene diacetate or methyl propasol acetate

Composition Properties

<table>
<thead>
<tr>
<th>Test</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solids (750°C) (%)</td>
<td>85.5 - 88.0</td>
</tr>
<tr>
<td>Viscosity (Pa.S) [Brookfield RVT, spindle#14, 10rpm, 25°C]</td>
<td>15 - 30</td>
</tr>
<tr>
<td>Coverage (sqt/g/mil) (cm²/g)</td>
<td>500</td>
</tr>
<tr>
<td>Density (g/cc)</td>
<td>6.04</td>
</tr>
<tr>
<td>Thinner</td>
<td>DuPont 8210</td>
</tr>
</tbody>
</table>

Typical Physical Properties on 5-mil Polyester Film

<table>
<thead>
<tr>
<th>Test</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheet Resistivity (mΩ/sq/mil)</td>
<td>500</td>
</tr>
<tr>
<td>Adhesion (Tape test) (B)</td>
<td>5</td>
</tr>
<tr>
<td>Abrasion Resistance (H), Pencil Hardness [ASTM D3363-74]</td>
<td>2</td>
</tr>
<tr>
<td>Solder</td>
<td>Not Recommended</td>
</tr>
</tbody>
</table>

This table shows anticipated typical physical properties for DuPont BQ331 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
DuPont 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).

For more information on DuPont BQ331 or other DuPont Microcircuit Materials products, please contact your local representative:

Americas
DuPont Microcircuit Materials
14 T.W. Alexander Drive
Research Triangle Park, NC 27709
Tel.: 800-284-3382

Europe
Du Pont (U.K.) Limited
Coldharbour Lane
Bristol BS16 1QD
U.K.
Tel.: 44-117-931-3191

Asia
DuPont Kabushiki Kaisha
Sanno Park Tower, 11-1
Nagata-cho 2-chome
Chiyoda-ku, Tokyo 100-611
Japan
Tel.: 81-3-5521-8650

DuPont Taiwan Ltd
45, Hsin-Pont Road,
Taoyuan, Taiwan 330
Tel.: 886-3-377-3616

DuPont China Holding Co. Ltd
Bldg 11, 399 Keyuan Rd., Zhangji Hi-Tech Park,
Pudong New District, Shanghai 201203, China
Tel.: 86-21-6386-6366 ext.2202

DuPont Korea Inc.
3~5th Floor, Asia tower #726,
Yeoksam-dong, Gangnam-gu
Seoul 135-719, Korea
Tel.: 82-10-6385-5399

E. I. DuPont India Private Limited
7th Floor, Tower C, DLF Cyber Greens,
Sector-25A, DLF City, Phase-III,
Gurgaon 122 002 Haryana, India
Tel.: 91-124-4091818

Du Pont Company (Singapore) Pte Ltd
1 HarbourFront Place, #11-01
HarbourFront Tower One,
Singapore 098633
Tel.: 65-6586-3022

http://mcm.dupont.com

Copyright © 2009 DuPont. All rights reserved. The DuPont Oval, DuPont™, The miracles of science™, Green Tape™ and all products or words denoted with ® or ™ are registered trademarks or trademarks of E. I. du Pont de Nemours and Company or its affiliates (“DuPont”). NO PART OF THIS MATERIAL MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM OR TRANSMITTED IN ANY FORM OR BY ANY MEANS ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING OR OTHERWISE WITHOUT THE PRIOR WRITTEN PERMISSION OF DUPONT.

Caution: Do not use in medical applications involving implantation in the human body or contact with internal body fluids or tissue unless the product is provided by DuPont under a formal written contract consistent with the DuPont Policy Regarding Medical Applications of DuPont Materials H-50103-2 (“Medical Applications Policy”) and which expressly acknowledges the contemplated use. For additional information, please request a copy of DuPont Medical Caution Statement H-50102-2 and the DuPont Medical Applications Policy.

The information provided herein is offered for the product user’s consideration and examination. While the information is based on data believed to be reliable, DuPont makes no warranties, expressed or implied as to the data’s accuracy or reliability and assumes no liability arising out of its use. The data shown are the result of DuPont laboratory experiments and are intended to illustrate potential product performance within a given experimental design under specific, controlled laboratory conditions. While the data provided herein falls within anticipated normal range of product properties based on such experiments, it should not be used to establish specification limits or used alone as the basis of design. It is the product user’s responsibility to satisfy itself that the product is suitable for the user’s intended use. Because DuPont neither controls nor can anticipate the many different end-uses and end-use and processing conditions under which this information and/or the product described herein may be used, DuPont does not guarantee the usefulness of the information or the suitability of its products in any given application. Users should conduct their own tests to determine the appropriateness of the products for their particular purpose.

The product user must decide what measures are necessary to safely use the product, either alone or in combination with other products, also taking into consideration the conditions of its facilities, processes, operations, and its environmental, health and safety compliance obligations under any applicable laws.

This information may be subject to revision as new knowledge and experience become available. This publication is not to be taken as a license to operate under, or recommendation to infringe any patent.

http://mcm.dupont.com

MCMBQ331(7/2012)