



The miracles of science™

# 7165 Electroluminescent Encapsulant

## Polymer Thick Film Composition

All values reported here are results of experiments in our laboratories intended to illustrate product performance potential with a given experimental design. They are not intended to represent the product's specifications, details of which are available upon demand.

### Product Description

7165 is a solvent based composition. It was developed as a screen printable encapsulant for EL lamps made with DuPont Luxprint\* system. It has been designed to provide improved electrical and environmental protection.

### Key Features

- Excellent adhesion to ITO film
- Low moisture affinity
- Compatible with the DuPont EL System -Build Sequence 1 (Conventional build)

### Processing

- Screen Printing Equipment**  
Semi-automatic and manual
- Substrates**  
Mylar Polyester Film, and ITO-Polyester
- Residence time on screen**  
>2 Hrs
- Screen Types**  
62T Polyester mesh; 20-25µm emulsion
- Typical Cure Conditions**  
Box oven: 15 minutes at 130°C
- Clean-up Solvent**  
Ethylene Diacetate

### General

Yield and performance will depend to a large degree on care exercised during processing, particularly in screen printing. Scrupulous care should be taken to keep the composition, printing screens and other tools free of metal contamination. Dust, lint and other particulate matter may also contribute to poor yields.

**Table 1**  
**Composition Properties**

<b>Viscosity (Pa.s)</b>	<b>20-40</b>
Brookfield 0.5 RVT UC & SP @ 10rpm, 25°C	
<b>%Solids</b>	<b>44-47</b>
<b>Thinner</b>	<b>8210</b>
<b>Shelf life (months)</b>	<b>6</b>

**Table 2**  
**Exemplary Physical Properties**  
**on 125µm Polyester Film**

Dry Layer Thickness(µm)	6 - 8
Coverage(cm <sup>2</sup> /g)	360

### Printing

7165 composition should be thoroughly mixed before use. Printing should be performed in a clean and well ventilated area. Additional information on requirements for printing areas is contained in DuPont Technical Guide EUT 7.3 "Processing - Screen Printing Rooms", available on request.

Note: optimum printing characteristics are generally achieved in the room temperature range of 20°C-23°C. It is therefore important that the composition, in its container, is at this temperature prior to commencement of printing.

For best results:

- a) Parts should be dried soon after printing in order to avoid re-wetting of the underlying layers
- b) It is recommended to use 1printed layer

### Thinner

This composition is optimized for printing, thinning is not normally required. Use the DuPont recommended thinner for slight adjustments to viscosity or to replace evaporation losses. The use

of too much thinner or the use of a non recommended thinner may affect the rheological behaviour of the material and its printing characteristics. Refer to table - "Composition Properties"

### **Compatibility**

7165 is compatible with other members of the DuPont Luxprint® System build sequence 1\*, and should be used together with the recommended phosphors and conductors.

Whilst DuPont has tested this composition with the specified materials and under the recommended processing conditions, it is impossible or impractical to cover every combination of materials, customer processing conditions and circuit layouts.

It is therefore essential that customers thoroughly evaluate the material in their specific situations in order to completely satisfy themselves with the overall quality and suitability of the composition for its intended application(s).

### **Storage**

Containers of 7165 should be stored in a clean, stable environment at room temperature <25°C, with the

container lids tightly sealed. Storage in freezers (temperature <0°C) is NOT recommended as this could cause irreversible changes in the composition. For guidance regarding storage of the composition, please consult DuPont Technical Note EUT 7.2 "Shelf Life Policy".

### **Shelf life**

This composition has a shelf life of 6 months from date of shipment for factory-sealed (unopened) containers, stored under room-temperature conditions.

### **Health/Safety considerations**

DuPont's polymer compositions are intended for use in an industrial environment by trained personnel. All appropriate health / safety regulations regarding storage, handling and processing of such materials should be complied with. For information on health / safety regulations please refer to the specific product MSDS and to the DuPont Safety Guide EUT 7.1 "Practical Safe Handling of Thick Film Compositions".

This information corresponds to our current knowledge on the subject. It is offered solely to provide possible suggestions for your own experimentation. It is not intended, however, to substitute for any testing you may need to conduct to determine for yourself the suitability of our products for your particular purposes. This information may be subject to revision as new knowledge and experience become available. Since we cannot anticipate all variations in actual end-use conditions, DuPont makes no warranties and assumes no liability in connection with any use of this information. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent right. **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.**

\*For further information please see Luxprint® Processing Guide