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Luxprint® 8150B White Electroluminescent Phosphor

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

Electroluminescent (EL) Phosphor 8150B is used in combination with DuPont EL dielectrics and conductors to fabricate electroluminescent lamps.* This composition is designed to provide a uniform layer of phosphor in a polymeric matrix when screen printed. 8150B utilizes a microencapsulated phosphor powder, hydrophobic binders for excellent moisture protection and fluorescent pigment which produces a white illumination.

Key Features

- High Brightness**
- Excellent moisture protection**
- Ready for screen printing**
- Compatible with Luxprint® System**
- Excellent adhesion to ITO sputtered polyester**

Processing

- Screen Printing Equipment**
Semi-automatic and manual
- Substrates**
Polyester, and ITO-Polyester
- Ink residence time on screen**
>2 hours
- Screen Types**
Polyester: 77T-48Y or 61-64Y;
20-25µm emulsion
- Typical Cure Conditions**
Box oven: 130°C / 15 minutes
Belt dryer: 130°C / 90 seconds
- Layer Thickness**
25 - 40µm (dry)

*For further information please see Luxprint® Processing Guide

Composition Properties

% Solids @ 150°C	73 - 76
Viscosity (Pa.s) Brookfield ½ RVT Spindle No.14 @ 10 rpm, 25°C	10 - 20
Thinner	8210
Paste Colour	Pink
Fluorescence	White
Shelf-life(months)	6

- Coverage**
110 - 130 cm²/g
- Clean-up Solvent**
Ethylene Diacetate, Acetone

Printing

The composition must be thoroughly mixed before use. This is best achieved by slow, gentle, hand stirring with a clean, preferably plastic spatula for several minutes. Care must be taken to avoid air entrapment.

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 material, in its container, is at this temperature prior to commencement of printing.

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"

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.

Compatibility

Electroluminescent Phosphor 8150B is compatible with other members of the DuPont Luxprint® System, and should be used together with the recommended conductors and dielectrics.

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 8150B Electroluminescent Phosphor composition may be stored in a clean, stable environment at temperature of between 5°C - 30°C, with their lids tightly

sealed. Storage in freezers (temperature < 0°C) is NOT recommended as this could cause irreversible changes in the material. For guidance regarding storage of material, 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.**