

DuPont™ LuxPrint® 8144

ELECTROLUMINESCENT MATERIAL

Technical Data Sheet

Product Description

DuPont™ LuxPrint® 8144 electroluminescent material is a carbon conductor designed for use with the DuPont Electroluminescent (EL) System for manufacturing screen-printed EL lamps. It is fully compatible with the phosphors, dielectrics and conductors of the system. LuxPrint® 8144 may be employed as an economical rear electrode in cases where high conductivity is not required.

Product Benefits

- Low affinity for moisture
- Compatible with LuxPrint® System
- Low cost
- Excellent adhesion to Indium Tin Oxide (ITO) sputtered polyester

Processing

- **Screen Printing Equipment**
Semi-automatic or manual
- **Substrates**
Polyester, ITO-Polyester (80Ω/sq), DuPont EL dielectric, glass
- **Ink Residence Time On Screen**
>2 hours
- **Screen Types**
200 - 325 mesh Stainless Steel/Polyester
20-25μm emulsion
- **Typical Cure Conditions**
Box oven: 130°C/5 min.
- **Layer Thickness**
9 - 13 μm (dry)
- **Clean-up Solvents**
Ethylene Diacetate, Acetone
- **Coverage**
110 – 130 cm²/g

Table 1
Composition Properties

Test	Properties
Viscosity (Pa.s) [Brookfield RVT #14 @ 10rpm, 25°C]	35 - 75
Solids (150°C)(%)	37.5 - 40
Thinner	DuPont 5928
Resistivity (Ω/sq/25μm)	80 - 120

Table 1 shows anticipated typical physical properties for LuxPrint® 8144 based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

Compatibility

LuxPrint® 8144 carbon conductor is fully compatible with the DuPont Electroluminescent System and should be employed together with phosphors and dielectrics in that system. While DuPont has tested this composition with specified materials and under the recommended processing conditions, it is impossible or impractical to cover every combination of materials, customer processing conditions and circuit layout. It is therefore essential that customers thoroughly evaluate this material in their specific situations, in order to completely satisfy themselves as to the overall quality and suitability of the composition for its intended applications.

Printing

This 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. 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

DuPont™ LuxPrint® 8144 electroluminescent material is optimised for screen printing and thinning is not normally required. DuPont 5928 may be used sparingly for slight adjustments to viscosity or to replace evaporation losses. However, 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.

Storage and Shelf Life

Containers may be stored in a clean, stable environment at room temperature (<25°C), with their lids tightly sealed. Storage in freezers (temperature <0°C) is NOT recommended as this could cause irreversible changes in the material. 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. Phosphor particles tend to settle out during static storage. Gentle jar rolling or turning the jars may be used to minimize settling of the phosphor component.

Safety and Handling

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

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