

# Duroptix™ OE-6370 HF Optical Encapsulant

LED Materials

Colorless, two part, 1:1 mix silicone elastomer

## Features

- High transparency
- Slightly high viscosity
- Fast cure

## Benefits

- No cure by-product
- Excellent thermal stability

## Composition

- 2-part
- Polydimethylsiloxane

## Applications

- LED encapsulant
- Suitable for overmolding process

## Description

DuPont silicone LED (light emitting diode) encapsulants are designed to meet the challenging needs of the LED market, including high adhesion, high purity, moisture resistance, thermal stability and optical transmittance. Silicone materials can absorb stresses caused by thermal cycling inside the package, protecting the chip and the bonding wires. With the electronics industry quickly moving toward lead-free processing, silicone encapsulants, with their demonstrated, excellent stability at reflow temperatures, are a natural fit for LED applications.

## Processing/curing

These products are also compatible with commercially available equipment and industry standard process. These materials can be dispensed or molded depending on the product and application. OS Fluids are recommended to clean cured or uncured silicone residue from application equipment.

## Typical Properties

Specification Writers: These values are not intended for use in preparing specifications. Please contact your local DuPont sales office before writing specifications on this product.

Property	Unit	Result
One or Two-Part	-	Two
Mix Ratio	-	1 : 1
Color	-	Clear
Viscosity (Part A)	cP mPa-sec Pa-sec	6100 6100 6.1
Viscosity (Part B)	cP mPa-sec Pa-sec	5300 5300 5.3
Viscosity (Mixed)	cP mPa-sec Pa-sec	5600 5600 5.6
Heat Cure Time at 150 °C	minutes	240
Durometer Shore A (JIS)	-	70
Transparency at 450 nm, 1 mm thick	%	100
Refractive Index	-	1.41
Impurity (Na+)	ppm	0.1
Impurity (K+)	ppm	0.2
Impurity (Cl-)	ppm	0.5
Shelf Life @ 35°C	months	12
Scorch time (150°C)	seconds	63

## Adhesion

DuPont LED materials are specially designed for adhesion to commonly used LED substrates. Surface treatments such as chemical etching or plasma treatment may provide a reactive surface and improve adhesion to these types of substrates. In general, increasing the cure temperature and/or cure time will improve the ultimate adhesion.

## Useful Temperature Ranges

For most uses, silicone encapsulants and resins should be operational over a temperature range of -45 to 200°C (-49 to 392°F) for long periods of time. However, at both the low- and high- temperature ends of the spectrum, behavior of the materials and performance in particular applications can become more complex and require additional considerations. For low-temperature performance, thermal cycling to conditions such as -55°C (-67°F) may be possible, but performance should be verified for your parts or assemblies. Factors that may influence performance are configuration and stress sensitivity of components, cooling rates and hold times, and prior temperature history. At the high-temperature end, the durability of the cured silicone encapsulants and resins is time and temperature dependent. As expected, the higher the temperature, the shorter the time the material will remain useable.

## Compatibility

Certain materials, chemicals, curing agents and plasticizers can inhibit the cure of addition cure adhesives. Most notable of these include: Organotin and other organometallic compounds, Silicone rubber containing organotin catalyst, Sulfur, polysulfides, polysulfones or other sulfur containing materials, unsaturated hydrocarbon plasticizers, and some solder flux residues. If a substrate or material is questionable with respect to potentially causing inhibition of cure, it is recommended that a small scale compatibility test be run to ascertain suitability in a given application. The presence of liquid or uncured product at the interface between the questionable substrate and the cured gel indicates incompatibility and inhibition of cure.

## Safe Handling Information

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND MATERIAL SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. FOR MATERIAL SAFETY DATA SHEETS, CONTACT YOUR LOCAL DUPONT SALES OFFICE.

## Usable life and storage

Shelf life is indicated by the "Use Before" date found on the product label. DuPont two-part products should be stored at or below 25°C (77°F). Containers should be kept tightly closed at all times to extend shelf life. Check the product label for specific storage conditions.

## Health And Environmental Information

To support customers in their product safety needs, DuPont has an extensive Product Stewardship organization and a team of Product Safety and Regulatory Compliance (PS&RC) specialists available in each area. For further information, please see our website, [www.dupont.com](http://www.dupont.com), or consult your local DuPont representative.

## Limitation

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.



[electronics.dupont.com](http://electronics.dupont.com)

For more information on Duroptix™ OE-6370 HF Optical Encapsulant or other DuPont products, please visit our website.

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