

Lighting is necessary for all aspects of life. All industries are affected by lighting in one form or another such as industrial, commercial, residential, architectural, consumer, transportation, display, signage, lamps, electronics, and others. Bulbs may be incandescent, fluorescent, light-emitting diode (LED), or high-intensity discharge (HID) bulbs.

Adhesives are commonly used in assembling LED and LCD displays, which are growing at a rapid rate. Displays range from small, digital screens on cell phones to the giant scoreboards found in sports stadiums.

Thermal interface materials (TIMs) considerably improve LED lifespans as they keep sensitive components cool to help prevent electronics failure by carrying away destructive waste heat.

## **Common Applications for Adhesives in Lighting**

Gasketing • Sealing External Housing • Encapsulating LED Chips & Internal Drivers LED Strip Bonding • Lens Bonding • Potting • Reflector Bonding • Optical Coating Insulating PCBs • Wire Tacking • Bonding Heat Sinks



















## LIGHTING ADHESIVES & PRODUCTS

## **LED Lighting Solutions:**

Adhesives - Used for lens bonding, threadlocking, and assembly.

**Conformal Coatings -** Coat and protect the printed circuit board, internal driver, and LED module.

**Electronic Encapsulants -** Used to encapsulate sensitive electronic components such as LED chips and internal drivers.

Optical Encapsulants - Used for protecting lenses, LED chips, and die attach.

**Sealants -** Used to protect LEDs from dust, moisture, and other environmental contaminants.

Thermal Materials - For bonding LED printed circuit boards and other power components.

## WE ARE ELLSWORTH ADHESIVES

With 80+ experienced Engineering Sales Representatives in North America and 200+ globally, Ellsworth Adhesives provides complete specialty chemical solutions for the lighting industry.

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Transportation Industry



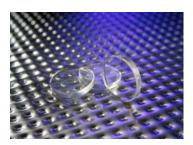
Resin Electrical Encapsulation



**Consumer Product Displays** 



Dispensable Thermal Pads



Optical Encapsulant



Large Sign Display