

# LIGHT CAP<sup>®</sup> High Performance LED Protection

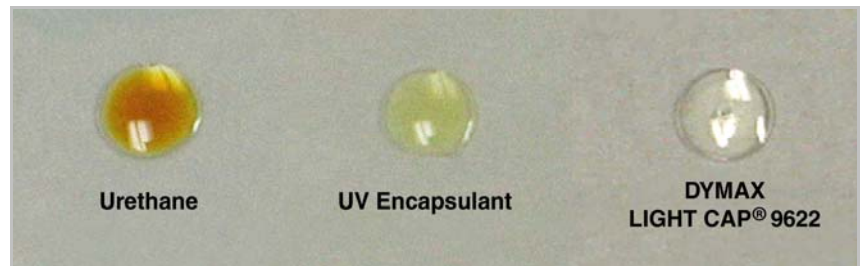
**NEW** LIGHT CAP<sup>®</sup> potting materials cure in seconds to provide optimal protection of LEDs. *LIGHT CAP* materials are designed to endure higher operating temperatures, resist yellowing and transmit more light than competitive technologies. Offering better clarity, at higher temperatures

than traditional epoxy, urethane, or UV doming resins, *LIGHT CAP* resins keep LED lighting brighter over time. *LIGHT CAP* resins are low stress, so fragile COB wire bonds are not compromised during thermal excursions or normal operating environments.



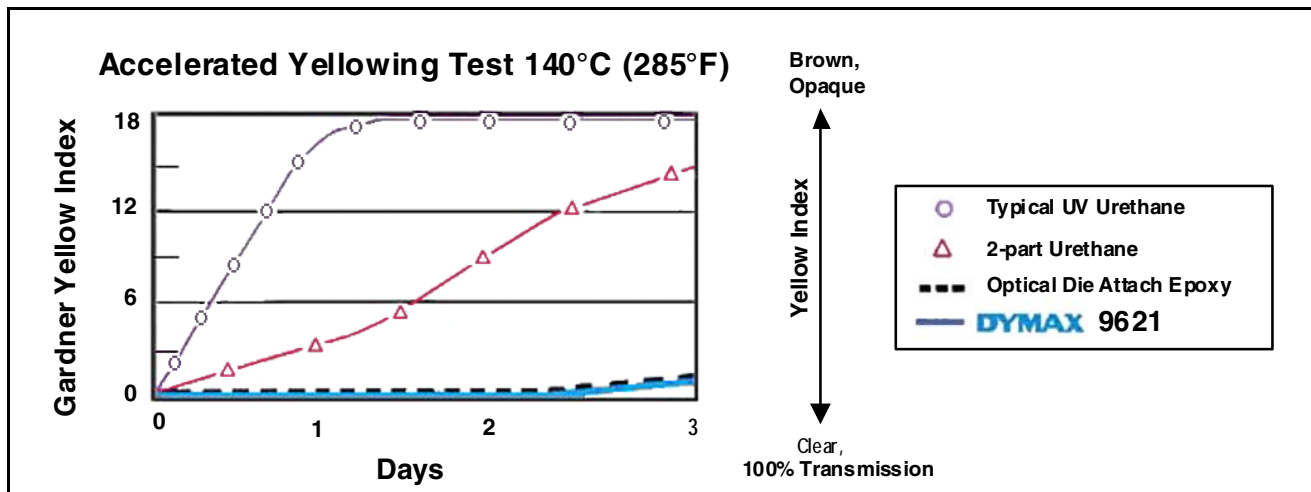
## Make LEDs Brighter and Increase Production Efficiency

|                                |                       |
|--------------------------------|-----------------------|
| Designed for higher power LEDs | Cure in seconds       |
| Enhance light transmittance    | Lower reject rates    |
| Resist heat-induced yellowing  | One part, no mixing   |
| Optically clear                | Solvent free, no VOCs |



6 Months at 100°C

## DYMAX Heat-Resistant LED Coatings



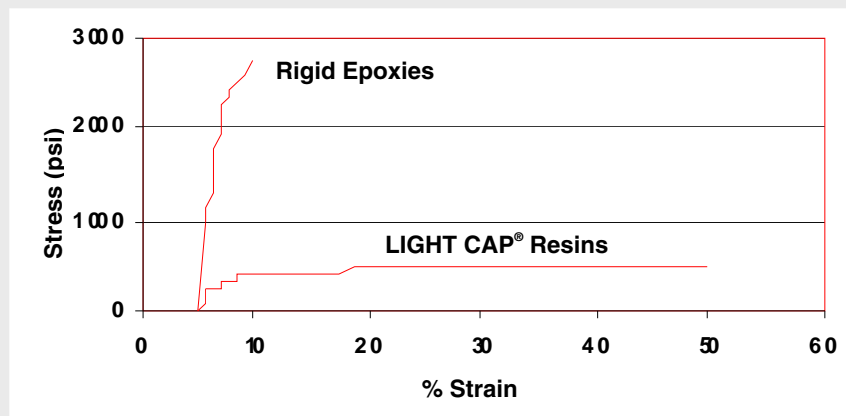
# Die Attach Encapsulants Offer the Highest Ionic Purity

LIGHT CAP® resins combine high ionic purity with low shrinkage and assure that delicate wire bonds do not break and result in rejects. Request the paper *Stress in Bonded Optics II* (literature Lit262) for a full discussion of the cushioning properties of LIGHT CAP resins. Similar to the DYMAX 9001 Series materials, LIGHT CAP resins reduce both stress and strain on wire bonds and create durable assemblies.

## Typical Ionic Content

|                      |         |     |
|----------------------|---------|-----|
| Extractable Chloride | <10 ppm | IC  |
| Sodium               | <10 ppm | ICP |
| Potassium            | <10 ppm | AA  |
| Fluoride             | <10 ppm | IC  |

## Stress Strain Relationships



LED Lighted Elevator Letter



LED Light

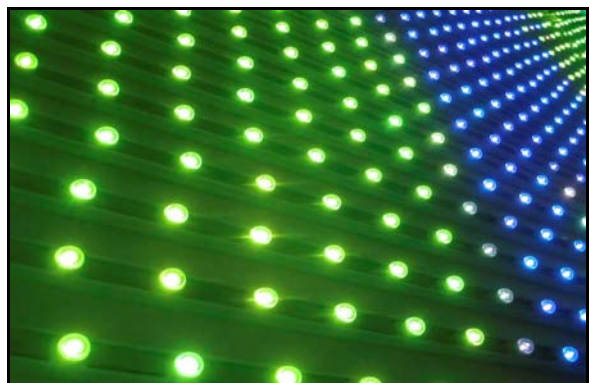
# LIGHT CAP® Resins

High-Performance Acrylate Resins, for High-Output LEDs, Resist Yellowing to 100°C

| Product | Viscosity   | Description                                                                                                               |
|---------|-------------|---------------------------------------------------------------------------------------------------------------------------|
| 9620    | 23,000 (cP) | High viscosity for dome shape; UV-only cure for enhanced heat resistance                                                  |
| 9621    | 20,000 (cP) | High viscosity for dome shape; UV/Visible cure for fastest cure and maximum depth                                         |
| 9622    | 12,000 (cP) | Medium viscosity for dispensing lens shapes without molds; UV/Visible light cure for curing hundreds of lenses per minute |
| 9623    | 12,000 (cP) | Medium viscosity for adding phosphors and dyes; UV-only cure for enhanced heat resistance                                 |
| 9624    | 120 (cP)    | Low viscosity for thin, uniform coatings; UV-only cure for enhanced heat resistance                                       |

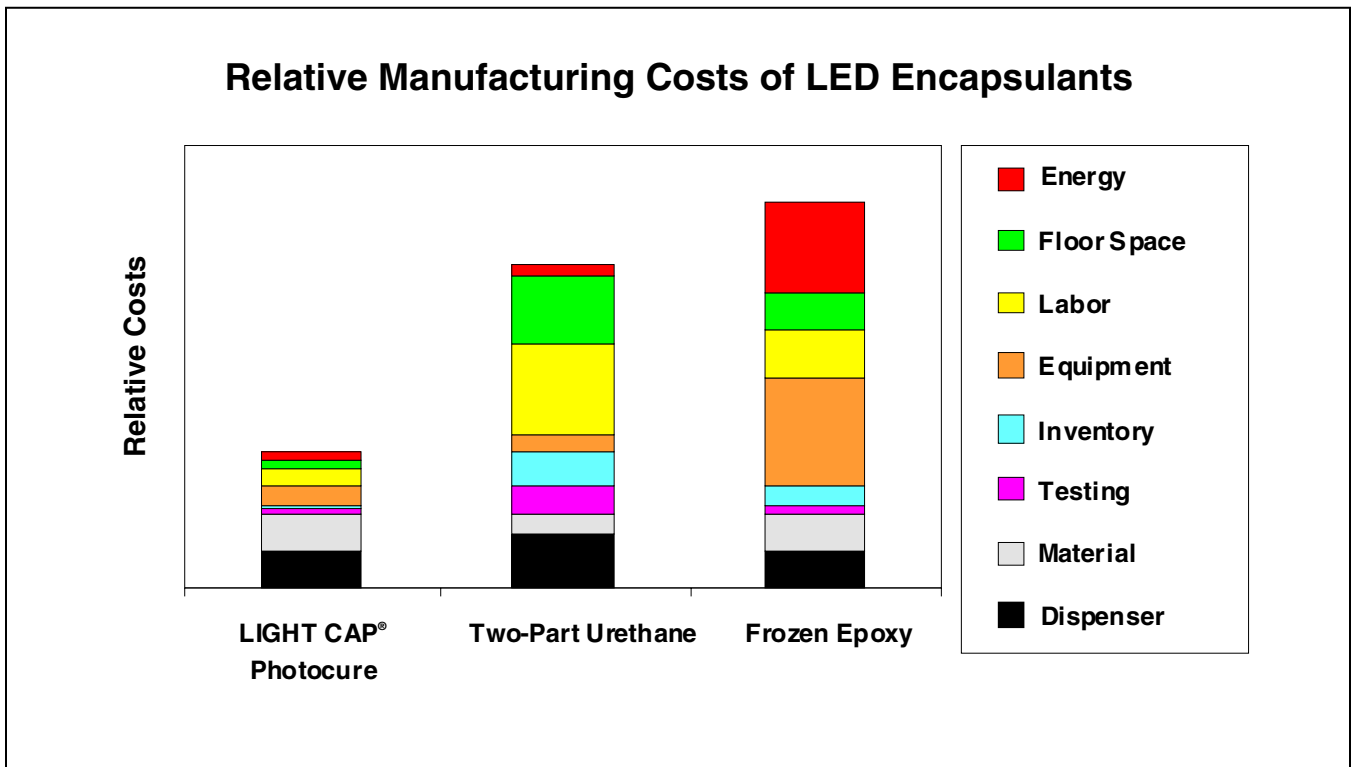


LED Airport Flight Display



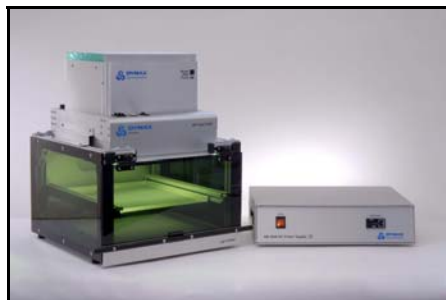
Green and Blue LED Pin Lights

## Instant UV Processing Dramatically Lowers Manufacturing Costs



# Ultraviolet Light Curing Guidelines

| DYMAX Curing System                         | Curing Footprint<br>(inches) | Cure Speed<br>(seconds)    |
|---------------------------------------------|------------------------------|----------------------------|
| 5000-EC Flood Lamp Curing Station           | 5 x 5                        | 2                          |
| 2000-EC Flood Lamp Curing Station           | 8 x 8                        | 10                         |
| UVC-6 Conveyor with two 5000-EC Flood Lamps | 5 x 10                       | Belt speed up to 25 ft/min |



2000-EC Flood Lamp Shown with ZIP™ Shutter and Work Station



UVCS Curing Conveyors for High Productivity and Continuous Production



5000-EC Flood Lamp Shown with ZIP™ Shutter and Work Station

For further assistance with adhesive and equipment selection, contact your DYMAX Applications Engineer.



In the U.S. Call: 877.396.2988  
 In North and South America Call: 860.482.1010  
 In Europe Call: +49 (0) 69 / 7165-3568  
 In Asia Call: +86.755.83485759

[www.dymax.com](http://www.dymax.com)  
[www.dymax.de](http://www.dymax.de)  
[www.dymax.com.cn](http://www.dymax.com.cn)

DYMAX Corporation - 318 Industrial Lane - Torrington, CT 06790 - Phone: 860.482.1010 - Fax: 860.496.0608 - E-mail: info@dymax.com - [www.dymax.com](http://www.dymax.com)

DYMAX Europe GmbH - Trakehner Strasse 3 - D-60487 Frankfurt am Main - Germany - Phone: +49 (0) 69 / 7165-3568 - Fax: +49 (0) 69 / 7165-3830 - E-mail: dymaxinfo@dymax.de - [www.dymax.de](http://www.dymax.de)

DYMAX UV Adhesives & Equipment (Shenzhen) Ltd - Unit 807, Talfook Building, No. 9 Shi Hua Road, Futian Free Trade Zone, Shenzhen, China 518038 - Phone: +86.755.83485759 - Fax: +86.755.83485760 - E-mail: dymaxasia@dymax.com - [www.dymax.com.cn](http://www.dymax.com.cn)

DYMAX Asia (HK) - Unit 1006, 10/F., Carnarvon Plaza, No. 20, Carnarvon Road, T.S.T., Kowloon, Hong Kong - Phone: +852.2460.7038 - Fax: +852.2460.7017 - E-mail: dymaxasia@dymax.com - [www.dymax.com.cn](http://www.dymax.com.cn)

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