

Leadless Component Ruggedization Adhesives

Various technologies are available for ensuring critical components on printed circuit boards remain intact throughout manufacturing, assembly qualification, and service environment for the duration of product lifecycle. Should one ball-grid interconnect fail, an entire device could be compromised. DYMAX has de-

veloped the next generation family of ruggedization adhesives engineered specifically for bonding high-value PCB components. DYMAX light-curable adhesives dispense and cure in seconds to provide the optimal balance of production efficiency and technical performance.

BENEFITS of LIGHT-CURABLE ADHESIVES VS UNDERFILL OR HEAT-CURE EPOXIES

- Fast dispense and cure
- Eliminate leadless component (BGA/VGA) interconnect cracking due to CTE mismatch
- Reduce stress on interconnects during push, pull, shock, drop, and vibration
- Enhance PCB life span
- Post reflow, room temperature application
- Easy rework
- Simple visual inspection

BENEFITS of DYMAX LIGHT-CURABLE LEADLESS COMPONENT REINFORCEMENT ADHESIVES

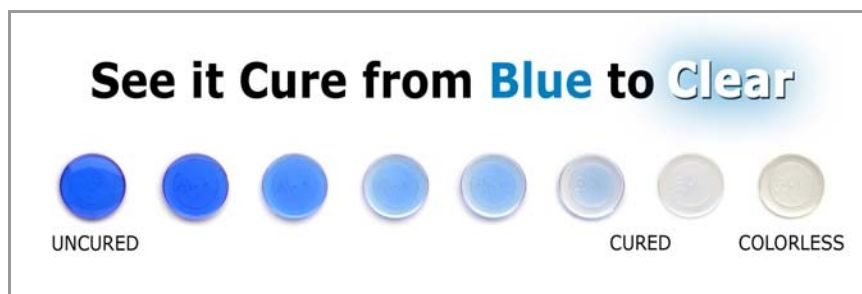
- Cure in seconds
- Engineered bead shape for wetting both board surface and component edge without seeping into shadowed area
- Highly thixotropic for **zero movement** prior to cure
- Low modulus for minimal stress in component interfaces
- Available with **See-Cure** Technology
- Exhibit improved bond strength for die and pry testing
- Halogen free
- Silicone free
- RoHS Compliant

TYPICAL APPLICATIONS

- Mobile phones, PDAs
- Laptop computers
- Gaming consoles
- GPS (global positioning systems)
- Digital music players



DYMAX SEE-CURE TECHNOLOGY*



See It **Dispense**

Easily identify adhesive bead profile and coverage on substrate prior to cure

See It **Cure**

Confirm the adhesive has received enough energy to cure

*DYMAX adhesives with See-Cure Technology have part numbers ending in "SC"



ENVIRONMENTAL BENEFITS of DYMAX LIGHT-CURABLE MATERIALS:

- No VOCs
- Solvent free
- HAP free
- No energy required for curing ovens
- Documented Halogen-Free

TYPICAL COST SAVINGS of DYMAX LIGHT CURABLE MATERIALS:

- Cure in seconds; increase throughput
- Minimal floor space requirements
- Simple to dispense – no solvent management or mixing systems required
- No silicone containment required
- Eliminate labor costs associated with:
 - Complex dispensing system maintenance
 - Manual transferring of parts for long cure
- No secondary inspection of bond area

PRODUCT SPECIFICATIONS

Product Features	9422-SC
Typical Applications	Component ruggedization, plastics bonding
Features	High viscosity/thixotropy for zero flow after dispense
Viscosity	37,000 cP
Technology	UV/visible light cure See-Cure
Uncured Color	Blue
Cured Color	Clear

Product Cure Data*	9422-SC	
Lamp	Lamp Intensity	Approximate Exposure or Belt Speed
BlueWave® 200 UV Curing Spot Lamp*	5 W/cm ²	10 seconds
BlueWave® 200 UV Curing Spot Lamp*	10 W/cm ²	5 seconds
5000-EC Flood Lamp System	200 mW/cm ²	15 seconds
UVCS Conveyor with 5000-EC	200 mW/cm ²	0.9 m/min [3.0 fpm]
UVCS Conveyor with Fusion D Lamps	2700 mW/cm ²	1.5 m/min [5.0 fpm]

* Cure times based on laboratory conditions.



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