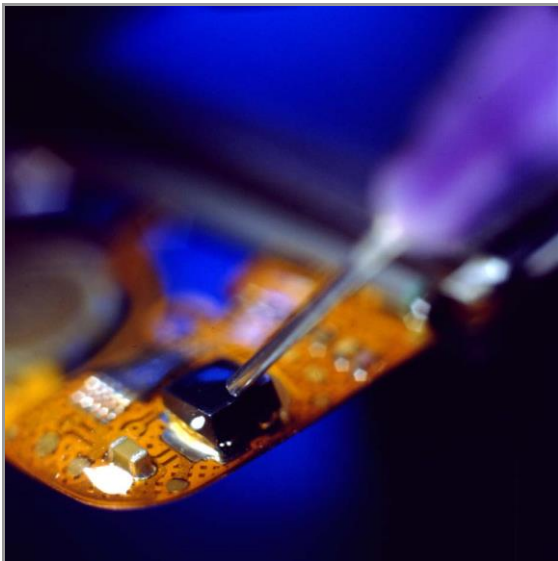


Chip Encapsulants

For Superior Protection on Flexible and Rigid Platforms

Dymax 9000 Series encapsulants cure in seconds upon exposure to UV/Visible light and are easily incorporated into automated systems for maximizing microelectronic assembly and production speeds. These tough, flexible encapsulants have high ionic purity, resistance to humidity, and resistance to thermal shock to effectively protect components and improve their reliability. 9000 Series single-component encapsulants contain no sharp, abrasive, mineral or glass fillers to abrade fine wires, and their combination of low T_g and low modulus means low stress. They have excellent adhesion to Polyimide, PET, flexible printed circuits, FR4, and ceramic boards and provide superior protection for glob top and chip-on-board applications. 9000 series encapsulants are also ideal for encapsulating ICs on flex circuits. The encapsulants are available in a wide range of viscosities, from thin to non-flowing gel, and several grades are formulated with secondary moisture cure to ensure the material cures in shadowed areas.



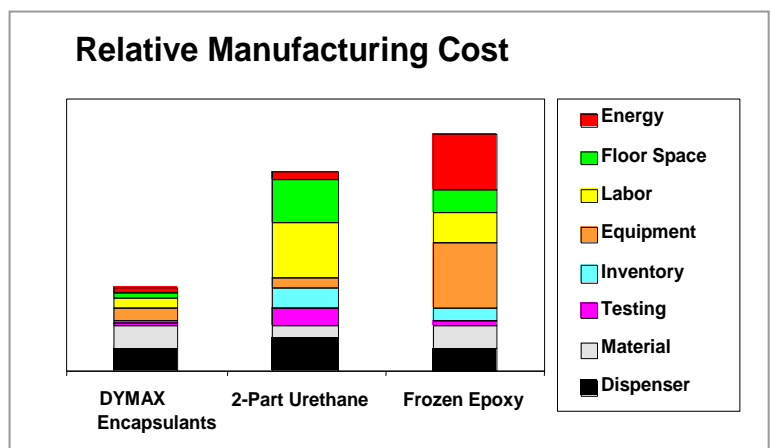
Clear UV-Curable Encapsulants

Feature	Benefit
<ul style="list-style-type: none"> Tack-free UV/Visible light cure in seconds 	<ul style="list-style-type: none"> Highest assembly throughput Minimal handling requirements
<ul style="list-style-type: none"> Secondary moisture cure available 	<ul style="list-style-type: none"> Fast cure rate for shadowed areas
<ul style="list-style-type: none"> 100% solvent free 	<ul style="list-style-type: none"> Very low VOCs High coverage
<ul style="list-style-type: none"> High ionic purity Resistance to thermal shock Resistance to moisture Low stress under thermal cycle Electrically insulating 	<ul style="list-style-type: none"> Maximum post-assembly reliability

Cost Savings of Dymax Encapsulants

- Cure in seconds; increase throughput
- Minimal floor space requirements
- Simple to dispense
- Eliminate labor costs associated with:
 - Complex dispensing system maintenance
 - Manual transferring of parts for long cure

Relative Manufacturing Cost



Dymax UV Light-Curable Encapsulants

Product	UV/Visible Light	LED Light (385 nm)	Heat	Moisture	Features	Nominal Viscosity, cP (20 rpm)	Durometer Hardness	Modulus of Elasticity, MPa [psi]	Elongation at Break, %
9001-E-V3.1	•	•	•		General-purpose, medium-viscosity encapsulant; good adhesion to flexible and rigid printed circuits; secondary heat cure	4,500	D45	17.2 [2,500]	150
9001-E-V3.5	•	•	•		Higher viscosity 9001-E series encapsulant; moisture and thermal cycle resistance; secondary heat cure	17,000	D45	17.2 [2,500]	150
9001-E-V3.7	•	•	•		Thixotropic viscosity; ideal for damming or thick coatings; secondary heat cure	50,000	D45	17.2 [2,500]	150
9008	•				Remains flexible at low temperatures; highly moisture resistant	4,500	A85	13.8 [2,000]	300
9101	•			•	Secondary moisture cure for shadowed areas; flexible; moisture and thermal resistant	7,000	D30-D50	17.6 [2,550]	38
9102	•			•	Secondary moisture cure for shadowed areas; flexible; moisture and thermal resistant	17,000	D30-D50	18.4 [2,670]	34
9103	•			•	Secondary moisture cure for shadowed areas; flexible; moisture and thermal resistant	25,000	D30-D50	17.7 [2,560]	36

Typical Ionic Content		
Extractable Chloride	<10 ppm	IC
Sodium	<10 ppm	ICP
Potassium	<10 ppm	AA
Fluoride	<10 ppm	IC



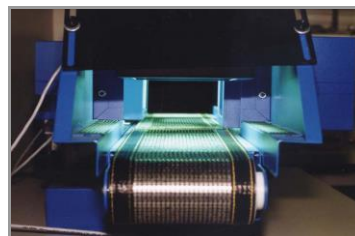
IC Kapton Flex Circuit Encapsulant



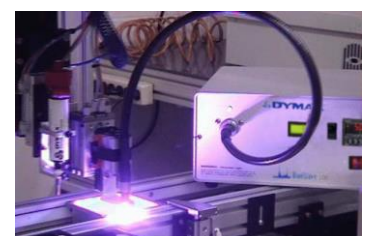
Glob Top and Black Encapsulants

Curing Options for Dymax Encapsulants

Dymax encapsulants cure in seconds upon exposure to UV light, affording the fastest processing possible. Avoid processing bottlenecks by choosing an efficient and cost-effective Dymax encapsulant with a matched Dymax UV light-curing system.



Cure large parts or arrays of parts under high-intensity conveyed light-curing systems



Automated Dymax spot light-curing system mounted on a robotic dispenser



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