



Light- and/or Heat-Curable Materials for Advanced Driver-Assistance Systems (ADAS)

- One part, solvent-free materials
- Materials cure in seconds with light for faster processing and increased productivity
- Positioning adhesives with very low volumetric shrinkage and low CTE for active alignment
- Products with excellent resistance to humidity and thermal shock
- UL-V0 flammability rated and fluorescing products available
- Excellent depth of cure with UV and/or heat for shadow areas
- Low moisture absorption and UV LED-curable products

Once considered high-end luxuries, Advanced Driver Assistance Systems (ADAS) have become standard features on most vehicles. ADAS technology can assist and alert drivers or even operate automatically to improve vehicle driving comfort and safety. These systems use a variety of “visual” and communications technologies designed to improve the driving experience. They enhance driver safety by delivering notifications and warnings of impending dangers so that drivers may avoid them. Or, even in some cases, vehicles use a mix of camera, radar/lidar, and ultrasonic sensor technology to make features like blind spot detection, cross traffic alerts, and parking assistance possible.

Dymax offers positioning adhesives and encapsulants that improve the performance and reliability of ADAS components. Our light-curable positioning adhesives are excellent for alignment of ADAS cameras and sensors, while our light-curable encapsulants can be used to protect ADAS sensors from damaging environments. Our materials cure in just seconds with UV/Visible light, cutting down on processing time for a faster, more efficient assembly process. Many materials can be cured with LED light and/or heat, making them ideal not only for process optimization and productivity enhancements but also accommodating designs where shadow areas exist. Products are available with fluorescing for easy in-line inspection. UL-V0 flammability rated products are also available.

Suggested Materials

Product	UV/Visible Light	Heat	Moisture	Features	Viscosity, cP	Durometer Hardness	Modulus of Elasticity, MPa [psi]	Elongation at Break, %	Shrinkage, %
Positioning Adhesives									
3094-GEL-REV-A	•			Low shrinkage and stress plastic bonder; multiple viscosities available; Ideal for LCP, PC, PU, PS, and other substrates	30,000	D67	179 [26,000]	200	0.5 Linear
9801	•	•		Low shrink epoxy; one part; low temperature heat cure (80-85°C); secondary heat cure for shadow areas; moisture and thermal cycle resistant; cold ship/storage; passes ASTM E595 outgassing testing	60,000	D90	1,600 [230,900]	2	1.5 Volumetric
9802	•	•		Developed with a high thixotropic and recovery ratio; very low volumetric shrinkage epoxy; one part; low temperature heat cure (80-85°C); secondary heat cure for shadow areas; moisture and thermal cycle resistant; cold ship/storage; passes ASTM E595 outgassing testing	60,000	D90	5,100 [740,000]	2	2.2 Volumetric
9803	•	•		Very low volumetric shrinkage and water absorption; greater depth of cure; one-part epoxy; low temperature heat cure (80-85°C); secondary heat cure for shadow areas; moisture and thermal cycle resistant; cold storage/cold ship; passes ASTM E595 outgassing testing	86,000	D94	3,983 [578,000]	1.2	1.1 Volumetric
Encapsulants									
9014*	•		•	Secondary heat-cure for shadow areas; flexible; blue fluorescing; room-temperature stable	18,000	A70	119 [17,300]	63	1.8 Linear
9037-F	•	•		Secondary heat cure for shadow areas; flexible; blue fluorescing; moisture and thermal resistance	55,000	D40	6.2 [900]	110	2.2 Linear
9-20558-REV-A	•	•		Secondary heat cure; flexible; bonds well to FPCs; UL V0 Flammability rating	20,000	D50	2.3 [340]	160	1.8 Linear
9001-E-V3.1	•	•		Secondary heat cure; moisture and thermal cycling resistance; well suited for chip-on-board, chip-on-flex, and multi-chip modules	4,500	D45	17 [2,500]	150	2.0 Linear

* UV only



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