

EPO-TEK® Specialty Adhesives for Sensor Applications



Epoxy Technology has an extensive offering of specialty adhesives for Sensor Applications: from Electrically Conductive, to Thermally Conductive, to Optical Grade Adhesives, as well as UV Epoxy and UV Hybrid Adhesives. Our EPO-TEK® brand adhesives are globally recognized for quality, performance and reliability.



Optical adhesives

Optical Applications - such as cameras, lasers, LEDs and photo-diodes, LiDAR and IR, where our optical, semiconductor die-attach, and UV curing products are used. EPO-TEK® products: **301-2**, **353ND**, **H20E**, **EK1000** and **OG198-54**.



Ultrasonic Adhesives

Ultrasonic Applications - such as in piezo fabrication and packaging, flex circuit assembly, electrical contacts and acoustic matching. EPO-TEK® products: **301**, **301-2FL**, **310M-1**, **353ND**, **EJ2189-LV** and **H20E**.



MEMS and IC Packaging Adhesives

MEMS and IC Packaging Applications - such as accelerometers, micro-actuators, gyroscopes and pressure sensors, where our EPO-TEK® products for semiconductor die-attach, wafer level spin coating, underfill, hermetic and hybrid microelectronics are used. EPO-TEK® products: **360**, **H20S**, **930-4**, **T6067-3**, **OJ2933-LH**, and **OD1001-67**.



RF/Radar Adhesives

RF/Radar Applications - such as hermetic and semi-hermetic packaging, transmitters and antenna, advanced driver assistance, and RFID transponders, where our EPO-TEK® products are used in semiconductor die attach, electrically and thermally conductive applications, and UV curing glob top. EPO-TEK® products: **353ND**, **H20S**, **H70E**, **H20E-PFC**, **OG116-31**, **OG142**, and **U300-2**.



Biometric and Biosensor Adhesives

Biometric and Biosensor Applications - such as wearable electronics for fitness and consumer health, fingerprint and retinal scanners, gesture and movement recognition and bio-tech remote monitoring. EPO-TEK® products: **MED-301**, **MED-320**, **MED-353ND**, **MED-T7110**, **MED-H20E**, and **EJ2189-LV**.

SELECTED PRODUCT LISTINGS FOR SENSOR APPLICATIONS

OPTICAL	EPO-TEK®	COLOR Before/After CURE (thin film)	CURE CONDITIONS (minimal)	VISCOSITY @ 23°C (cPs)	INDEX OF REFRACTION Nd @589nm	POT LIFE (@ room temp)
	301	Clear / Colorless	65°C - 1 hour 23°C - 24 hours	@ 100 rpm 100 - 200	1.5190	1-2 hours
	301-2	Clear / Colorless	80°C - 3 hours 23°C - 2 days	@ 100 rpm 225 - 425	1.5318	8 hours
	301-2FL	Clear / Colorless	80°C - 3 hours 23°C - 3 days	@ 100 rpm 100 - 200	1.5102	10 hours
	310M-1	Clear / Colorless	65°C - 2 hours 23°C - 24 hours	@ 100 rpm 100 - 600	1.5129	2 hours
	353ND	Amber / Dark Amber	150°C - 1 min 80°C - 30 min	@ 50 rpm 3,000 - 5,000	1.5694	3 hours
	360	Light Yellow / Dark Amber	150°C - 1 min 100°C - 10 min	@ 100 rpm 350 - 550	1.5345	6 hours
	OD1001-67	Cream / Yellow	150°C - 1 hour	@ 100 rpm 1,000 - 2,500	1.5247	28 days
	OJ2933-LH	Light Yellow / Amber	150°C - 1 hour	@ 1 rpm 65,000 - 140,000	1.5686	2 days
U300-2	Amber / Dark Amber	150°C - 1 hour	@ 20 rpm 3,700 - 6,700	1.5746	2 days	

THERMAL	EPO-TEK®	CURE CONDITIONS (minimal)	VISCOSITY @ 23°C (cPs)	DIE SHEAR STRENGTH @ RT (80 mil X 80 mil)	THERMAL CONDUCTIVITY (W/m²K)	POT LIFE (@ room temp)
	930-4	150°C - 1 hour 80°C - 6 hours	@ 20 rpm 12,000 - 17,000	≥15kg / 5,334psi	1.70	1 day
	T6067-3	150°C - 1 hour	@ 1 rpm 100,000 - 150,000	≥25kg / 8,890psi	1.00	28 days
	T7110	80°C - 2 hours 23°C - 3 days	@ 100 rpm 1,400 - 2,200	≥10kg / 3,556psi	1.00	3.5 hours

ELECTRICAL	EPO-TEK®	CURE CONDITIONS (minimal)	VISCOSITY @ 23°C (cPs)	VOLUME RESISTIVITY (ohm-cm)	THERMAL CONDUCTIVITY (W/m²K)	POT LIFE (@ room temp)
	EJ2189-LV	150°C - 1 hour 23°C - 3 days	@ 1 rpm 25,000 - 45,000	≤0.009	2.50	4 hours
	EK1000	150°C - 1 hour + 200°C - 1 hour (post)	@ 100 rpm 1,800 - 3,600	≤0.00009	12.60 26.30	2 weeks
	H20E	150°C - 5 min 80°C - 3 hours	@ 100 rpm 2,200 - 3,200	≤0.0004	2.50	2.5 days
	H20E-PFC	175°C - 45 sec 80°C - 3 hours	@ 100 rpm 3,000 - 4,000	≤0.0004	3.20	3 days
H20S	150°C - 5 min 80°C - 90 min	@ 100 rpm 1,800 - 2,800	<0.0005	3.30	3 days	

UV	EPO-TEK®	CURE CONDITIONS 100mW/cm2 @ 240 - 365nm (minimal)	VISCOSITY @ 23°C (cPs)	INDEX OF REFRACTION Nd @589nm	PERFORMANCE FEATURES
	OG116-31	> 30 sec	@ 10 rpm 20,000 - 30,000	1.5842	High chemical resistance, high Tg & high index
	OG142	> 30 sec	@ 20 rpm 9,000 - 15,000	1.5809	Medium viscosity, high strength, moisture resistance
	OG198-54	> 30 sec	@ 100 rpm 200 - 450	1.5256	Low viscosity, high Tg, shadow curing

Biocompatible/Medical	EPO-TEK®	PERFORMANCE FEATURES
	MED-301	Clear, low viscosity, room temp cure, used for potting
	MED-320	Black, opaque, thixotropic paste, room temp cure, potting, low fluorescence
	MED-323LP	Medium viscosity, long pot life with high Tg
	MED-353ND	Medium viscosity, high Tg, high strength (worldwide standard for optics)
	MED-H20E	Smooth thixotropic paste, ECA with high thermal conductivity and high reliability
MED-T7110	Pourable, TCA with low viscosity, potting	

All EPO-TEK® Medical Device grade adhesives ("MED") are ISO 10993 tested for biocompatibility

