Optical/Fiber Optic

Epoxy Adhesives

Epoxy Technology's optical line of adhesives is used for bonding and protective coatings in various fiber optic applications. Our epoxy adhesives are frequently used to bundle optical fibers and bond components in optoelectronic devices such as: telecommunication networks, aircraft, satellites as well as medical and scientific instruments.

Representative examples from our extensive offering:

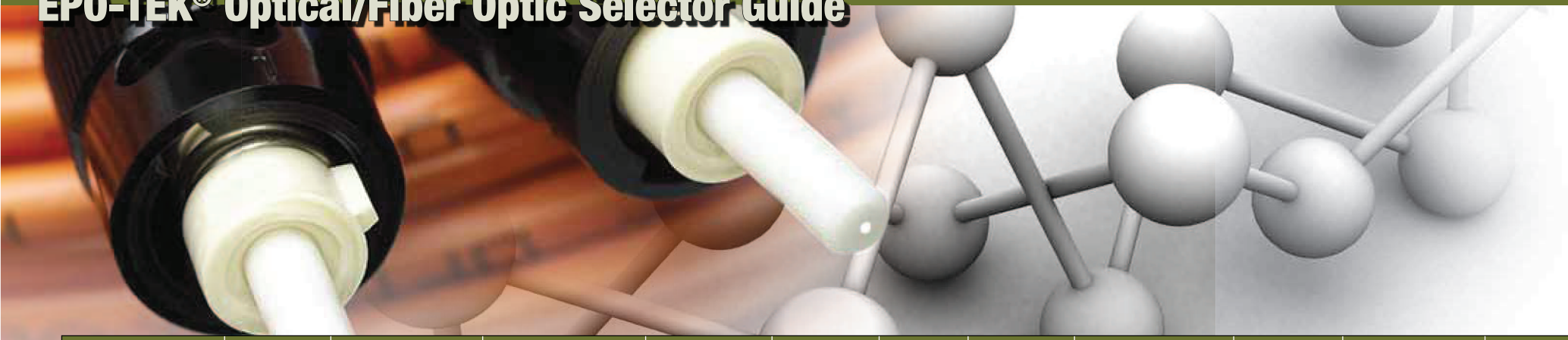
- **EPO-TEK 353ND, a well-known "standard in the industry" and EPO-TEK 383ND, an 8-hour pot life version, are commonly used in fiber connections for coating over stripped fibers or for ferrule potting.**
- **EPO-TEK 301 and EPO-TEK 301-2 are two component, clear and colorless, room temperature curing epoxies for sensor applications in IR and medical CT detectors. Both are USP Class VI approved.**
- **EPO-TEK 310M-2 is a two component, room temperature curing, highly flexible epoxy for bonding stress sensitive components. USP Class VI approved.**
- **EPO-TEK OD2002 is a two component, high T_g epoxy with low modulus and good toughness. It is autoclavable and exhibits low stress on large core glass fibers in connectors.**

Please consult our Applications Experts For Adhesive Recommendations and Discussions

EPO-TEK® Recommended Applications Chart

EPO-TEK Applications	301	301-2	301-2FL	302	302-3M	305	310M-2	320	323LP	353ND	353ND-T	354	360	377	383ND	OD2002	OM125
Bond 125µ glass fiber to fiber optic connector	*	*	*	*	*	*			*	*	*	*	*	*	*	*	*
Bond fiber optic cable jacket to non-crimp type fiber connect	*	*	*	*	*	*				*		*	*				
Glass fiber potting with good visual indication of wicking									*	*		*	*	*	*		*
Plastic & glass fiber potting or lens & prism bonding	*	*	*		*	*	*			*		*	*				
Coating/potting & bonding optically opaque components								*									
Casting or potting optically clear LED & components	*	*	*	*	*	*	*										
Excellent spectral transmission in thin bond lines & visible light	*	*	*	*	*	*	*										
Fast, room temperature curing	*			*	*	*		*									*
High temperature requirements									*	*	*	*	*	*	*	*	
UV transmission						*											
Autoclavable					*				*	*	*	*	*	*	*	*	
Medical – USP Class VI	*	*	*		*		*	*		*		*		*			
Potting I.R. Detectors	*	*	*		*			*						*			
Flexible: Coating or bonding stress sensitive components		*	*			*	*										
Optical Replication	*	*	*														
Fiber Optic bundling in ferrules	*	*	*		*				*	*		*	*	*	*		
Low stress on large core glass fibers in connectors	*	*	*		*	*										*	*
Glob Top / Opto-Coupler	*	*	*		*		*										
X-Ray Detection	*	*	*				*										
Fiber Optic V-Groove									*	*		*	*	*	*		
Wafer Level - CMOS Camera Optics									*	*		*			*		
TO-Can Window Sealing					*		*			*		*					
Fiber Optic Gyros / PM Fiber	*	*	*							*			*				

EPO-TEK® Optical/Fiber Optic Selector Guide



EPO-TEK	NO. OF COMPONENTS	COLOR Before/After CURE (thin film)	CURE TEMPERATURE (minimal)	VISCOSITY @ 23°C (cPs)	GLASS TRANSITION TEMPERATURE (T_g)	LAP SHEAR STRENGTH (PSI)	INDEX OF REFRACTION (Nd)	SPECTRAL TRANSMISSION	TGA DEGRADATION TEMPERATURE	CTE Below T_g / Above T_g (in/in/°C)	POT LIFE (@ room temp)	SHELF LIFE (@ room temp)
301	Two	Clear / Colorless	65°C – 1 hour 23°C – 24 hours	@ 100 rpm 100 – 200	≥65°C	>2,000	1.5190	>99% @ 380 – 980nm >97% @ 980 – 1640nm	430°C	39×10^{-6} / 98×10^{-6}	1-2 hours	1 year
301-2	Two	Clear / Colorless	80°C – 3 hours 23°C – 2 days	@ 100 rpm 225 – 425	≥80°C	>2,000	1.5318	>99% @ 400 – 1200nm >98% @ 1200 – 1600nm	360°C	61×10^{-6} / 180×10^{-6}	8 hours	1 year
301-2FL	Two	Clear / Colorless	80°C – 3 hours 23°C – 3 days	@ 100 rpm 100 – 200	≥45°C	>2,000	1.5115	>99% @ 400 – 1000nm >97% @ 1000 – 1600nm	325°C	56×10^{-6} / 211×10^{-6}	10 hours	1 year
302	Two	Clear / Light Yellow	23°C – 2 hours	@ 20 rpm 5,000 – 10,000	≥40°C	1,756	1.5442	>85% @ 440 – 900nm >88% @ 900 – 1600nm	261°C	52×10^{-6} / 191×10^{-6}	10 min	10 mo.
302-3M	Two	Clear / Slight Yellow	65°C – 3 hours 23°C – 24 hours	@ 100 rpm 800 – 1,600	≥55°C	>2,000	1.5446	>95% @ 460 – 1620nm	351°C	56×10^{-6} / 193×10^{-6}	1 hour	1 year
305	Two	Clear / Colorless	65°C – 1 hour 23°C – 24 hours	@ 100 rpm 150 – 250	≥35°C	1,880	1.4763	>91% @ 250nm >98% @ 400 – 1600nm	270°C	31×10^{-6} / 148×10^{-6}	1 hour	1 year
310M-2	Two	Clear / Colorless	65°C – 2 hours 23°C – 24 hours	@ 100 rpm 250 – 325	≤30°C	678	1.4947	>98% @ 380 – 1660nm	331°C	67×10^{-6} / 201×10^{-6}	1.5 hours	1 year
320	Two	Black / Black	65°C – 2 hours 23°C – 24 hours	@ 100 rpm 700 – 1,200	≥55°C	>2,000	N/A	<1% @ 300 – 2500nm	384°C	29×10^{-6} / 100×10^{-6}	1 hour	1 year
323LP	Two	Slight Yellow / Red	90°C – 30 min	@ 50 rpm 3,500 – 5,500	>100°C	>2,000	1.5703	>90% @ 640 – 800nm >94% @ 820 – 1620nm	413°C	31×10^{-6} / 132×10^{-6}	24 hours	1 year
353ND	Two	Amber / Dark Red	150°C – 1 min 80°C – 30 min	@ 50 rpm 3,000 – 5,000	≥90°C	>2,000	1.5694	>98% @ 800 – 1000nm >95% @ 1100 – 1600nm	412°C	54×10^{-6} / 206×10^{-6}	≤3 hours	1 year
353ND-T	Two	Tan / Dark Red	150°C – 1 min 80°C – 30 min	@ 20 rpm 9,000 – 15,000	≥90°C	1,953	N/A	N/A	409°C	43×10^{-6} / 231×10^{-6}	3 hours	1 year
354	Two	Amber / Dark Red	150°C – 10 min 80°C – 2 hours	@ 50 rpm 4,000 – 6,000	≥95°C	1,668	1.5734	>96% @ 600nm >99% @ 800nm	487°C	96×10^{-6} / 175×10^{-6}	3 days	1 year
360	Two	Light Yellow / Dark Amber	150°C – 1 min 100°C – 10 min	@ 100 rpm 350 – 550	≥90°C	>2,000	1.5345	>97% @ 700 – 1600nm >88% @ 600nm	375°C	39×10^{-6} / 175×10^{-6}	6 hours	1 year
377	Two	Amber / Dark Amber	150°C – 1 hour	@ 100 rpm 150 – 300	≥95°C	1,456	1.5195	>99% @ 600nm >95% @ 1000 – 1500nm	375°C	57×10^{-6} / 210×10^{-6}	24 hours	1 year
383ND	Two	Amber / Dark Red	90°C – 30 min	@ 50 rpm 3,500 – 6,000	>100°C	>2,000	1.5715	>90% @ 520 – 1600nm	415°C	34×10^{-6} / 129×10^{-6}	8 hours	1 year
OD2002	Two	Cloudy Amber / Dark Amber	150°C – 5 min 100°C – 30 min	@ 2.5 rpm 24,000 – 42,000	>140°C	1,570	1.5728	>98% @ 800 – 1640nm 69% @ 600nm	443°C	45×10^{-6} / 187×10^{-6}	4 hours	1 year
OM125	Two	Blue / Blue	80°C – 1 hour 23°C – 24 hours	@ 50 rpm 2,400 – 5,400	≥80°C	808	N/A	97% @ 800nm >96% @ 1500nm	367°C	28×10^{-6} / 114×10^{-6}	<1 hour	1 year

Note: 23°C denotes RT cure