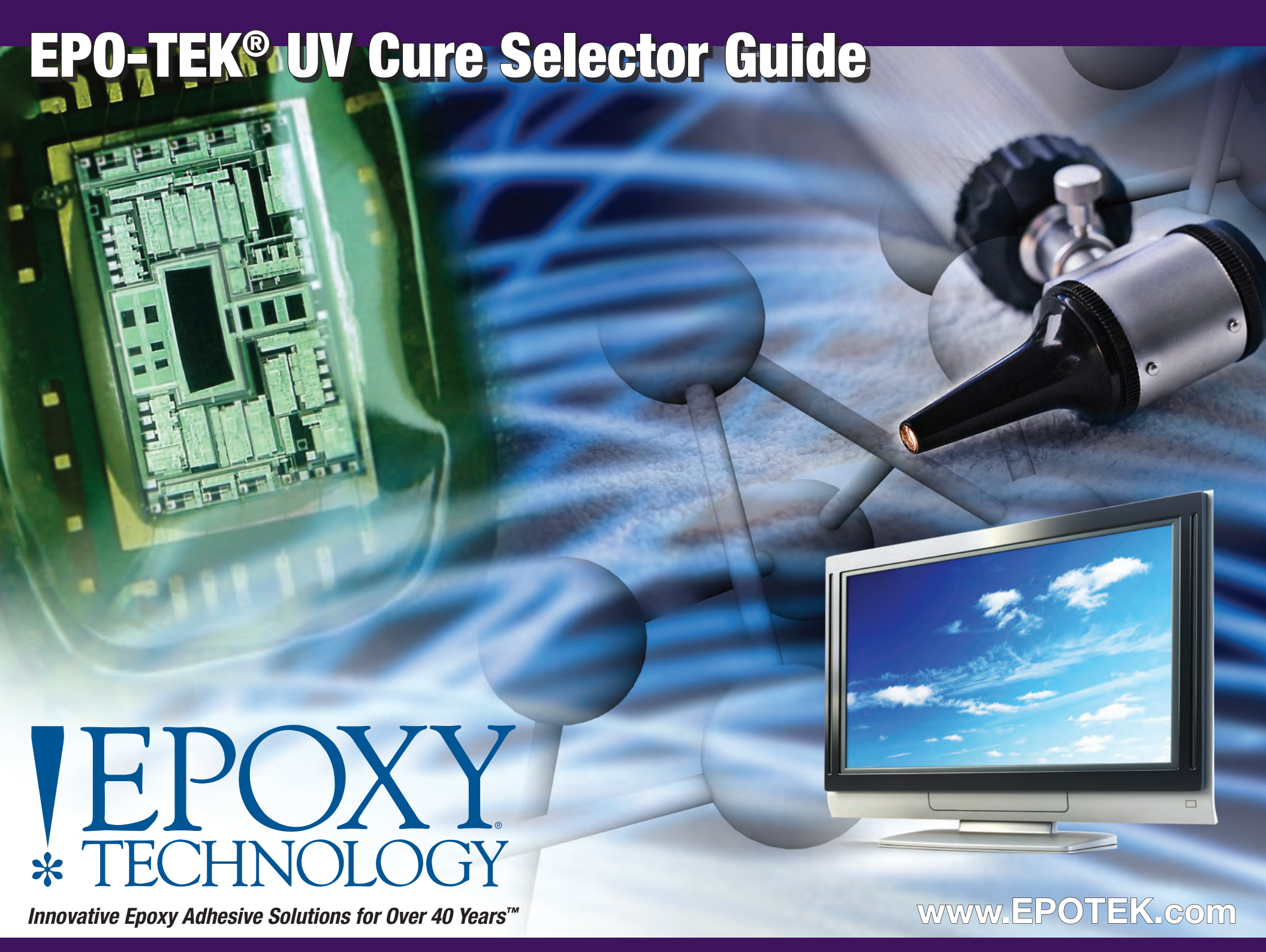


EPO-TEK® UV Cure Selector Guide

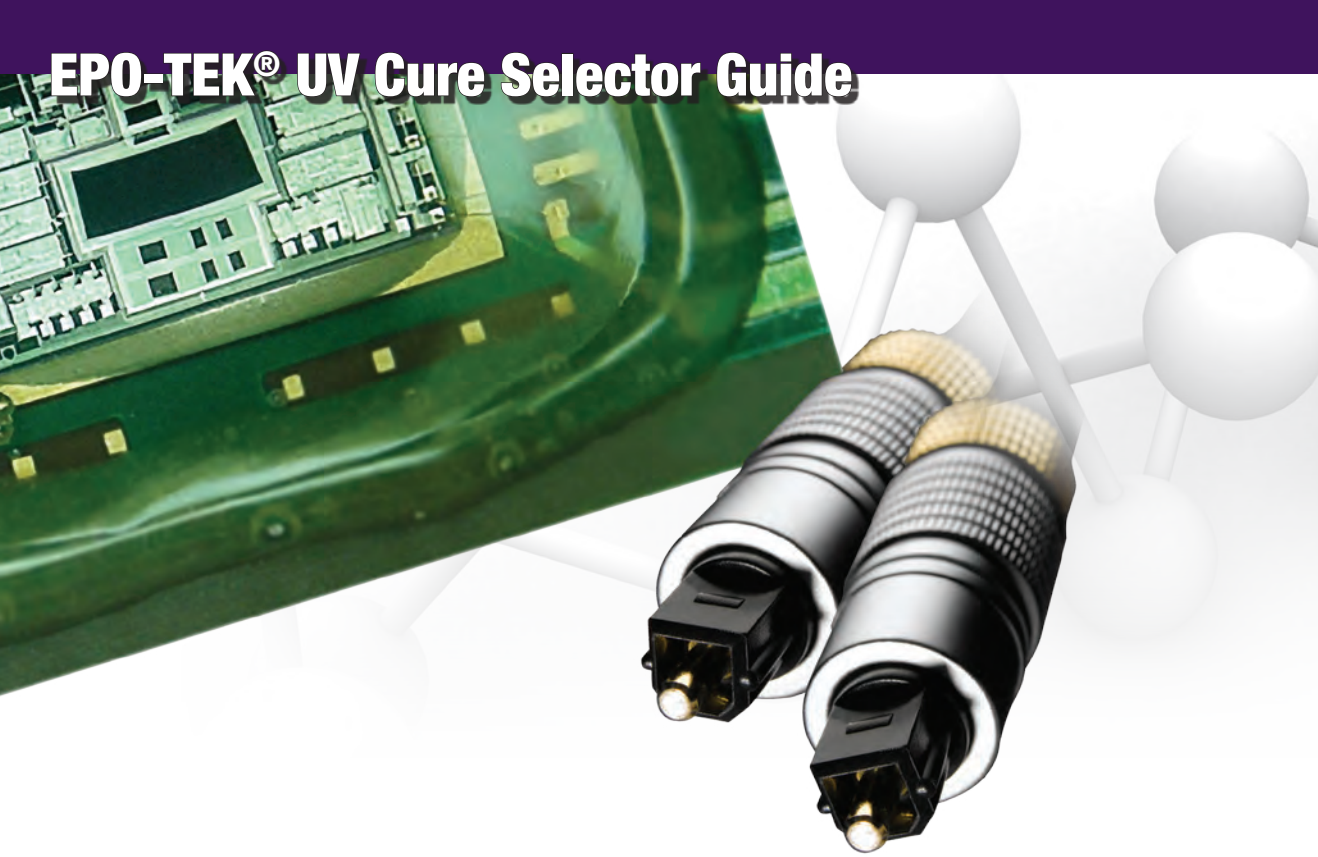


EPOXY
* TECHNOLOGY

Innovative Epoxy Adhesive Solutions for Over 40 Years™

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EPO-TEK® UV Cure Selector Guide



UV Cure Epoxies

Epoxy Technology, Inc. offers a complete line of **high performance Ultraviolet (UV) cure adhesives** ranging in viscosity, flexibility, refractive index and light transmission. UV cure epoxies provide advantages such as extremely fast curing rates, single component (no mixing) chemistries, solventless, accurate alignment of components, ease of automation, improved production rates and thermal energy savings over conventional systems (little power consumption) by the elimination of all or part of curing by heat.

The selection of an adhesive for a specific application depends on many factors such as viscosity, post-cure strength and hardness, shrinkage, Tg, the type of surface to be bonded, surface transparency, bond area and design/geometry. One must also consider the application method, such as having the proper viscosity/rheology to accurately deposit and apply the material. Another important criteria is refractive index. The refractive index of a material is the most important property of any optical system that transmits light. It is also used to calculate the focusing power of lenses, and the dispersive power of prisms.

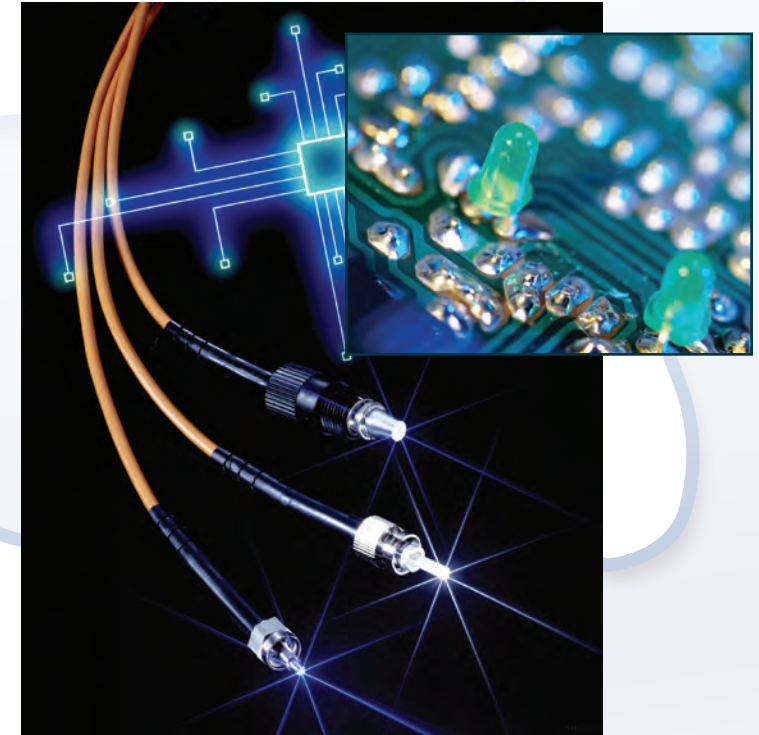
EPO-TEK	VISCOSITY @ 23°C (cPs)	GLASS TRANSITION TEMPERATURE (Tg)	SHORE HARDNESS	OUTGASSING @ 200°C	TGA DEGRADATION TEMPERATURE	INDEX OF REFRACTION (Nd)	SPECTRAL TRANSMISSION	PERFORMANCE FEATURES
UVO114	@ 100 rpm 450	≥45°C	76D	1.23%	361°C	1.5191	>94% 500 – 1400nm >97% 1550nm	Clear, colorless, general purpose adhesive. Capable of transmitting light in the 400-1600nm range. Compatible with near IR optics and packaging schemes. Can be used as an anti-scratch coating on lenses. Also used for optical replication.
OG113	@ 100 rpm 120	≥36°C	62D	2.00%	361°C	1.5055	>98% 500 – 1660nm	Clear, colorless, low viscosity adhesive. Used for general bonding, potting, coating and encapsulation.
OG116	@ 2.5 rpm 85,000	146°C	85D	0.19%	424°C	1.5756	>96% 560 – 1660nm	Clear, colorless, high viscosity adhesive. Used for general bonding.
OG116-31	@ 10 rpm 25,000	≥115°C	83D	0.31%	409°C	1.5662	>92% 500nm >96% 660 – 1640nm	Cloudy-white, high viscosity adhesive. Complies with USP Class VI bio-compatibility. Commonly used in COB glob-top. Good adhesion to FR4, Kapton, silicon, glass and most plastics. Very chemically resistant to inks, solvents and cleaning agents.
OG125	@ 100 rpm 100	≥50°C	79D	6.90%	226°C	1.4355	100% 440 – 900nm >99% 900 – 1600nm	Clear, colorless, low viscosity, low index of refraction adhesive. Optically transparent.
OG133-7	@ 100 rpm 300	≤10°C	81A	1.55%	361°C	1.5060	>90% 440 – 580nm >96% 800 – 1600nm	Clear to slightly yellow, flexible, low viscosity, high index of refraction adhesive, suitable for glob-top and potting/encapsulation of photo-diodes.
OG133-8	@ 100 rpm 1,250	<10°C	65A	2.37%	353°C	1.5050	>90% 640nm >95% 900nm	Cloudy-colorless, very low Tg, slightly thixotropic paste adhesive. Good flexibility for glob-top encapsulation and other stress relief applications.
OG134	@ 100 rpm 75	≥15°C	48D	4.64%	250°C	1.4230	>99% 580 – 1100nm >98% 1600nm	Clear, very low viscosity, high stress absorbing adhesive. Low index of refraction. Excellent for fiber optic wicking or coating. Soft and flexible after cure. Suitable for micro-molding lenses in LCD projection.
OG142	@ 20 rpm 12,000	≥95°C	86D	0.20%	421°C	1.5692	>97% 660 – 1640nm	Optically clear, colorless adhesive. Designed for sealing and encapsulating in semiconductor, electro-optics, fiber optics and medical applications. High Tg and moisture resistance is ideal for LCD and OLED products.
OG142-6	@ 10 rpm 23,156	85°C	86D	0.41%	400°C	1.5715	n/a	Off white-color, thixotropic/smooth paste adhesive. Ideal for COB glob-top “dam” encapsulation processes. An opaque epoxy.
OG142-87	@ 100 rpm 546	93°C	82D	0.32%	384°C	1.4941	>97% 580 – 1680nm	Clear, colorless, low viscosity adhesive. Ideal for adhesive and sealing applications in fiber optic, LCD, OLED, display, solar photovoltaic and camera optic industries.
OG142-95	@ 100 rpm 534	98°C	82D	0.39%	358°C	1.4946	>97% 580 – 1680nm	Clear, colorless, low viscosity adhesive. Ideal for adhesive and sealing applications in fiber optic, LCD, OLED, display, solar photovoltaic and camera optic industries.
OG142-112	@ 100 rpm 1417	108°C	83D	0.27%	384°C	1.5395	>97% 500 – 1660nm	Clear, colorless, medium viscosity adhesive. Provides excellent adhesion and moisture protection for applications found in solar photovoltaic, fiber optic and camera optic industries.
OG146-178	@ 100 rpm 164	82°C	82D	0.38%	341°C	1.5107	>98% 440 – 1680nm	Clear, colorless, low viscosity, fast cure adhesive. Ideal for adhesive applications in fiber optic and x-ray device industries.
OG147	@ 10 rpm 35,000	≥130°C	80D	0.47%	365°C	n/a	<6% 360 – 680nm <9% 700 – 980nm	Black-color, high Tg, high viscosity adhesive. Designed for adhesive, sealing and encapsulating opto-electronics, fiber optics, circuit assembly and medical devices. Ideal for blocking out light in opto-electronic packages. A very smooth thixotropic paste.
OG147-7	@ 10 rpm 35,000	≥70°C	81D	0.09%	414°C	1.5690	>78% 580 – 800nm >83% 800 – 2000nm	White, thixotropic, high viscosity adhesive. Ideal for COB glob-top “dam” encapsulation processes.
OG154-1	@ 5 rpm 31,399	105°C	80D	0.17%	379°C	1.5575	>98% 560 – 1620nm	Clear, colorless, high viscosity, non-thixotropic adhesive. Ideal for adhesive and sealing applications in fiber optic components and packaging as well as general PCB circuit assembly. It is also high Tg and provides a high index of refraction.
OG159-2	@ 2.5 rpm 120,000	≥30°C	69D	0.13%	443°C	1.5679	>98% 580 – 2000nm	White-color, very high viscosity adhesive containing glass beads. Designed for sealing glass plates in the LCD/OLED display industry. Can be applied by screen printing or dispensing. It contains 1 mil glass beads for bond line control.
OG175	@ 100 rpm 1,800	≥15°C	55D	0.45%	410°C	1.4466	>97% 600 – 1700nm	Optically clear adhesive. Low index of refraction for fiber optic and opto-electronic device packaging. Used in optical beam pathways. Very soft, flexible after cure. An adhesive for coupling fiber array to lens array using V-grooves.
OG198-54	@ 100 rpm 327	131°C	86D	0.24%	363°C	1.5062	>97% 460 – 1680nm	Clear, colorless, high Tg, DUAL-cure adhesive. Ideal for active alignment of optics inside fiber optic components and packages.
OG198-55	@ 100 rpm 1765	131°C	85D	0.23%	354°C	1.5034	>97% 520 - 1680	Cloudy appearance, thixotropic/smooth paste, high Tg, DUAL-cure adhesive. Ideal for active alignment of optics inside fiber optic components and packages. This is a thixotropic version of OG198-54.
OG603	@ 100 rpm 200	≥70°C	84D	0.79%	385°C	1.4736	>98% 420 – 1600nm	Clear, colorless, low viscosity, general purpose adhesive. Ideal for fiber optics, DVD, medical and PCB level opto-electronics. Meets the requirements of USP Class VI bio-compatibility standards for medical implants. Fast curing in seconds.

Common Applications

EPO-TEK® UV Cure epoxy adhesives are commonly used in a variety of applications such as: **encapsulation, glob-top, coatings, and bonding**. Specifically, they are a fast way to bond fiber (fiber optics) arrays in a waveguide module in passive alignment. Also used in fiber optic pigtailing to diodes where the UV cure material is ideal for fiber alignment to the diode. Other applications may include: LCD plugging and sealing, OLED environmental protection and micro-array for CCD/CMOS camera optics.

With low water vapor absorption and very low outgassing, UV adhesives are also suitable for many demanding electronic applications. Additionally, many UV cure epoxy adhesives cure in a matter of seconds or minutes, have good temperature and excellent chemical resistance, therefore making them ideal for challenging application environments.

Epoxy Technology, Inc. also offers several USP Class VI bio-compatible UV cure adhesives for implantable medical devices.



DISCLAIMER: Data presented is provided only as a guide in selecting an adhesive. Properties listed are typical, average values, based on tests believed to be accurate. It is recommended the user perform a thorough evaluation for any application based on their specific requirements. Epoxy Technology makes no warranties (expressed or implied) and assumes no responsibility in connection with the use or inability to use these products.

ISO 9001

RoHS
COMPLIANT
2002/95/EC

Please consult our Applications Experts at Epoxy Technology to find the most suitable adhesives for specific technical challenges.

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