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OPTICALLY CLEAR ADHESIVES

EPOXYSET'S optical grade epoxy adhesives are designed to provide the good adhesion, transparency and refractive index for many optical applications such as lenses laser windows, LEDs, prisms, and photodiodes etc. They are also useful for many fiber optic applications. These optical grade epoxies provide excellent moisture and temperature resistance, high bond strength, and good impact strength.

EPOXIBOND		EB-106	EB-106LP	EB-107	EB-109	EB-110	EB-112LV-2
Hardener		EH-21	EH-21LP	EH-21	EH-21	EH-9	EH-7M
Mix ratio by weight (Adhesive/Hardener)		100/30	100/30	100/30	100/25	100/13	100/30
Mixed Viscosity @ 25°C	cp	300	300	150	150	2250	150
Pot life @ 25°C (100 grams)	Minutes	30	>4 hours	30	60	30	>8 hours
Recommended Cure	Hours/°C	3/65	3/65	3/65	3/65	2/100	2/100
Alternate Cure	Hours/°C	24/25	48/25	24/25	48/25	24/25	1 hr @ 150°C
TYPICAL CURED PROPERTIES:							
Color		Clear	Clear	Clear	Clear amber	Clear	Clear
Specific Gravity		1.1	1.1	1.1	1.1	1.1	1.12
Hardness	Shore	D-80	D-80	D-80	D-70	D-90	D-89
Refractive Index		1.56	1.565	1.54	-	1.554	1.542
Water Absorption (24 hrs immersion @ 25°C)	%	0.17	0.18	0.17	0.28	0.31	0.2
Lap Shear Strength	Psi	2700	2400	2700	2200	2000	2100
Glass Transition Temperature	°C	65	62	65	55	120	130
Coefficient of Thermal Expansion	10^{-6}/°C	59	59	59	66	52	52
Service Temperature Range	°C	-55 to 90	-55 to 90	-55 to 90	-55 to 90	-55 to 120	-55 to 150
Flexural Strength	Psi	13500	13200	13500	10500	13900	19500
Flexural Modulus	Psi	3.2×10^5	2.9×10^5	3.2×10^5	2×10^5	4.4×10^5	3.4×10^5
Dielectric Strength	Volts/mil	450	480	450	420	450	430
Dielectric Constant	@ 1 kHz	4.14	3.9	4.14	4.1	3.9	3.8
Dissipation Factor	@ 1 kHz	0.012	0.01	0.012	0.01	0.02	0.01
Volume Resistivity	Ohm-cm	$8x10^{14}$	$8x10^{14}$	$8x10^{14}$	$1x10^{14}$	$6x10^{15}$	$2x10^{15}$