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LOW THERMAL EXPANSION POTTING COMPOUNDS

EPOXICAST compounds are pourable, filled epoxy resin systems offering low thermal expansion, high voltage insulation, low exotherm and minimum shrinkage. The cured systems provide very good chemical resistance and excellent dielectric properties. Its low shrinkage minimizes risk of damage to fragile components. These products are designed for potting and encapsulating electronic/microelectronic components such as densely packaged microcircuit packages, integrated circuits, amplifiers, transformers and many types of semiconductors.

EPOXICAST		EC-1002	EC-1024	EC-1026	EC-1027	EC-1031	EC-1082
Hardener		**EH-21**	**EH-9**	**EH-10**	**EH-26**	**EH-9**	**EH-26**
Mix ratio by weight (Epoxicast/Hardener)		100/14	100/5	100/25	100/10	100/6	100/8
Mixed Viscosity @ 25°C	Cps	1500	6500	4000	39,000	6000	1200 @ 75°C
Pot life @ 25°C (100 grams)	Hrs	2	2	>8	>4	1/2	1 hr @ 75°C
Recommended Cure		2 hrs @ 70°C	2 hrs @ 25°C+ 2 hrs @ 125°C	2 hrs @ 80°C+ 2 hrs @ 150°C	2 hrs @ 80°C+ 2 hrs @ 150°C	24 hrs @ 25°C	3 hrs @ 80°C+ 8 hrs @ 100°C
Alternate Cure		**24 hrs @ 25°C**	**24 hrs @ 25°C**	**4 hrs @ 25°C**	**4 hrs @ 25°C**	**2 hrs @ 80°C**	**6 hrs @125°C**
TYPICAL CURED PROPERTIES							
Color		Black	Black	Black	Black	Black	Black
Specific Gravity		1.55	1.7	1.72	1.76	1.55	1.81
Hardness	Shore D	88	85	90	90	86	92
Thermal Conductivity	W/m°K	0.62	0.6	0.62	0.64	0.55	0.8
Water Absorption (24 hrs. immersion @ 25°C)	%	0.12	0.05	0.04	0.04	0.02	0.04
Linear Shrinkage	%	0.33	0.04	0.29	0.34	0.01	0.07
Glass Transition Temperature	°C	55	80	120	150	110	138
Coefficient of Thermal Expansion	10^{-6}/°C	48	34	29	27	34	21
Service Temperature Range	°C	-55°C to 105°C	-55°C to 105°C	-55°C to 180°C	-55°C to 180°C	-55°C to 120°C	-55°C to 200°C
Flexural Strength	psi	16,000	11,000	12,100	13,800	15,500	24,500
Flexural Modulus	psi	$9x10^5$	$1x10^5$	$1.3x10^6$	$1.2x10^5$	$4x10^5$	$4x10^5$
Dielectric Strength (3mm thickness)	Volt/mil	460	420	480	460	470	450
Dielectric Constant	@ 1 kHz	4.6	4.4	3.9	4.3	4.5	4.6
Dissipation Factor	@ 1 kHz	0.009	0.01	0.003	0.004	0.01	0.01
Volume Resistivity	Ohm-cm	$1x10^{15}$	$1x10^{15}$	$2x10^{16}$	$4x10^{16}$	$4x10^{15}$	$4x10^{15}$