

Lord Adhesives Circalok[®],ç 6031 A/B Epoxy Encapsulant

Category : Polymer , Thermoset , Epoxy , Epoxy Encapsulant, Unreinforced

Material Notes:

Circalok[®],ç 6031 A/B is a two-part epoxy potting compound with excellent electrical properties at elevated temperatures. Good arc-track resistance under high voltage loading and other dielectric properties are maintained at an operating temperature of 155[°]C (311[°]F). This compound is recommended for potting military and industrial grade transformers, especially units designed for high temperature service. It is particularly resistant to thermal and mechanical shock and to conditions of high moisture. Heat aging characteristics are good; but there is some loss of physical (i.e. load-bearing) properties at elevated temperatures. The low viscosity and vapor pressure of this system facilitate rapid de-aeration and good impregnation. Because exotherm is minimal, very large castings can be poured without outgassing and with minimal stresses during cure. Properties obtainable exceed the requirements of MIL-I-16923, Type D. All information provided by Lord.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Lord-Adhesives-Circalok-6031-AB-Epoxy-Encapsulant.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.40 - 1.50 g/cc @Temperature 25.0 °C	1.40 - 1.50 g/cc @Temperature 77.0 °F	
Water Absorption	0.20 % @Temperature 25.0 °C, Time 864000 sec	0.20 % @Temperature 77.0 °F, Time 240 hour	
Loss On Ignition	0.50 % @Temperature 155 °C, Time 605000 sec	0.50 % @Temperature 311 °F, Time 168 hour	
Viscosity	1000 cP @Temperature 60.0 °C	1000 cP @Temperature 140 °F	mixed
	13000 cP @Temperature 25.0 °C	13000 cP @Temperature 77.0 °F	catalyzed
Linear Mold Shrinkage	0.0030 cm/cm	0.0030 in/in	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	60	60	
Tensile Strength, Yield	13.8 MPa @Temperature 25.0 °C	2000 psi @Temperature 77.0 °F	

Mechanical Properties	Metric	English	Comments
Izod Impact, Notched	0.694 J/cm	1.30 ft-lb/in	

Thermal Properties	Metric	English	Comments
CTE, linear	45.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	25.0 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	
Thermal Conductivity	0.360 W/m-K	2.50 BTU-in/hr-ft $\text{Å}^2\cdot\text{Å}^\circ\text{F}$	
Maximum Service Temperature, Air	155 $\text{Å}^\circ\text{C}$	311 $\text{Å}^\circ\text{F}$	Continuous
	250 $\text{Å}^\circ\text{C}$	482 $\text{Å}^\circ\text{F}$	Intermittent
Heat Distortion Temperature	70.0 $\text{Å}^\circ\text{C}$	158 $\text{Å}^\circ\text{F}$	
Minimum Service Temperature, Air	-100 $\text{Å}^\circ\text{C}$	-148 $\text{Å}^\circ\text{F}$	Intermittent
	-55.0 $\text{Å}^\circ\text{C}$	-67.0 $\text{Å}^\circ\text{F}$	Continuous

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.00\text{e}+14$ ohm-cm	$\geq 1.00\text{e}+14$ ohm-cm	
	@Temperature 25.0 $\text{Å}^\circ\text{C}$	@Temperature 77.0 $\text{Å}^\circ\text{F}$	
Dielectric Constant	3.8	3.8	
	@Frequency 100000 Hz, Temperature 25.0 $\text{Å}^\circ\text{C}$	@Frequency 100000 Hz, Temperature 77.0 $\text{Å}^\circ\text{F}$	
Dielectric Strength	17.7 - 19.7 kV/mm	450 - 500 kV/in	
Dissipation Factor	0.012	0.012	
	@Frequency 100000 Hz, Temperature 25.0 $\text{Å}^\circ\text{C}$	@Frequency 100000 Hz, Temperature 77.0 $\text{Å}^\circ\text{F}$	

Processing Properties	Metric	English	Comments
Cure Time	60.0 min	1.00 hour	followed by 4 hours @ 160 $\text{Å}^\circ\text{C}$
	@Temperature 120 $\text{Å}^\circ\text{C}$	@Temperature 248 $\text{Å}^\circ\text{F}$	
	120 min	2.00 hour	followed by 12 hours @ 120 $\text{Å}^\circ\text{C}$
	@Temperature 85.0 $\text{Å}^\circ\text{C}$	@Temperature 185 $\text{Å}^\circ\text{F}$	
Pot Life	≥ 480 min	≥ 480 min	
	@Temperature 25.0		

Processing Properties	°C Metric	@Temperature 77.0 °F English	Comments
Shelf Life	12.0 Month	12.0 Month	

Descriptive Properties	Value	Comments
Appearance	Beige	
Mix Ratio	3:1	by weight
Thermal Resistance (°C-in/W)	110	

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