

Aptek 2100-A/B Urethane Encapsulant and/or Potting Compound

Category : Polymer , Adhesive , Thermoset , Polyurethane, TS , Thermoset Polyurethane, Adhesive

Material Notes:

General purpose encapsulant and potting compound. Outstanding hydrolytic stability. Excellent adhesion to components/circuit boards. Low modulus, low stress. Field proven for military and space applications. Part A is a cloudy, unfilled polyol resin. Part B is a clear/hazy yellow organic isocyanate. Information provided by Aptek Laboratories, Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Aptek-2100-AB-Urethane-Encapsulant-andor-Potting-Compound.php

Physical Properties	Metric	English	Comments
Density	0.910 g/cc	0.0329 lb/in ³	A Component; ASTM D1475
	1.23 g/cc	0.0444 lb/in ³	B Component; ASTM D1475
Moisture Absorption at Equilibrium	0.18 %	0.18 %	Cured property; ASTM D570
Viscosity	50 cP	50 cP	B Component; ASTM D1824
	8000 cP	8000 cP	A Component; ASTM D1824
Outgassing - Total Mass Loss	0.38 %	0.38 %	Cured property; at 10E-6 torr; ASTM E595
Collected Volatile Condensable Material	0.030 %	0.030 %	Cured property; at 10E-6 torr; ASTM E595

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	50 - 60	50 - 60	Cured property; ASTM D2240
Tensile Strength, Ultimate	3.31 MPa	480 psi	Cured property; ASTM D412
Elongation at Break	325 %	325 %	Cured property; ASTM D412
Modulus of Elasticity	0.00517 GPa	0.750 ksi	Cured property; ASTM D412
Adhesive Bond Strength	3.62 MPa	525 psi	Al-to-Al Lap Shear; Cured property; ASTM D1002

Thermal Properties	Metric	English	Comments
CTE, linear	67.0 $\mu\text{m}/\text{m}\cdot\text{C}$	37.2 $\mu\text{in}/\text{in}\cdot\text{F}$	Cured property; alpha 1
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	220 $\mu\text{m}/\text{m}\cdot\text{C}$	122 $\mu\text{in}/\text{in}\cdot\text{F}$	Cured property; alpha 2
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Thermal Conductivity	0.176 W/m-K	1.22 BTU-in/hr-ft ² -°F	COLORA

Thermal Properties	Metric	English	Comments
Flash Point	>= 150 °C	>= 302 °F	B Component; ASTM D92
	>= 200 °C	>= 392 °F	A Component; ASTM D92

Electrical Properties	Metric	English	Comments
Volume Resistivity	8.80e+15 ohm-cm	8.80e+15 ohm-cm	Cured property; ASTM D257
Dielectric Constant	3.2	3.2	Cured property; ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Strength	14.6 kV/mm	370 kV/in	Cured; ASTM D149
	@Thickness 12.7 mm	@Thickness 0.500 in	
	>= 78.7 kV/mm	>= 2000 kV/in	Cured; ASTM D149
	@Thickness 0.127 mm	@Thickness 0.00500 in	
Dissipation Factor	0.024	0.024	Cured property; ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	

Processing Properties	Metric	English	Comments
Processing Temperature	80.0 °C	176 °F	Cure 8 hrs.
	100 °C	212 °F	Cure 4 hrs.

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