

Tra-Con Tra-Bond 2159 Heat Conductive Electrically Insulating Compound

Category : Polymer , Thermoset , Epoxy , Epoxy, Thermally Conductive

Material Notes:

TRA-BOND 2159 is a flexible, thermal conductive epoxy system. It is used for staking transistors, diodes, resistors, integrated circuits and other heat-sensitive components to printed circuit boards. This two-part adhesive develops strong, durable, high-impact bonds at room temperature which improve heat transfer while maintaining electrical insulation. TRA-BOND 2159 bonds readily to itself, and to metals, silica, steatite, alumina, sapphire and other ceramics, glass, plastics and many other materials, because its coefficient of thermal expansion provides a good match for those materials over a fairly wide temperature range. Fully cured TRA-BOND 2159 provides excellent resistance to salt solutions, mild acids and alkalis, and many other chemicals including petroleum solvents, lubricating oils, and alcohol. Information provided by Tra-Con Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Tra-Con-Tra-Bond-2159-Heat-Conductive-Electrically-Insulating-Compound.php

Physical Properties	Metric	English	Comments
Specific Gravity	2.30 g/cc	2.30 g/cc	Mixed
Solids Content	100 %	100 %	Reactive Solids Content
Viscosity	48000 cP @Temperature 25.0 °C	48000 cP @Temperature 77.0 °F	Mixed (10 rpm)

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	45	45	
Adhesive Bond Strength	6.21 MPa	900 psi	Lap shear, alum to alum, 24 hrs @ 25°C
	8.96 MPa	1300 psi	Lap shear, alum to alum, 4 hrs @ 65°C

Thermal Properties	Metric	English	Comments
Thermal Conductivity	0.840 W/m-K	5.83 BTU-in/hr-ft ² -°F	
Maximum Service Temperature, Air	125 °C	257 °F	
Minimum Service Temperature, Air	-70.0 °C	-94.0 °F	
Glass Transition Temp, Tg	6.00 °C	42.8 °F	Ultimate Tg

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.10e+15 ohm-cm	2.10e+15 ohm-cm	
	3.20e+13 ohm-cm	3.20e+13 ohm-cm	

Electrical Properties	@Temperature 75.0 °C Metric	@Temperature 167 °F English	Comments
Dielectric Constant	5.9	5.9	
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Strength	16.1 kV/mm	410 kV/in	
Dissipation Factor	0.010	0.010	
	@Frequency 1000 Hz	@Frequency 1000 Hz	

Processing Properties	Metric	English	Comments
Cure Time	120 - 240 min	2.00 - 4.00 hour	
	@Temperature 65.0 °C	@Temperature 149 °F	
	1440 min	24.0 hour	
	@Temperature 25.0 °C	@Temperature 77.0 °F	
Pot Life	30 min	30 min	

Descriptive Properties	Value	Comments
Color	Light Gray	
Mix Ratio, parts by weight	100/40	Resin/Hardener
Thixotropic Index	1.8	10 rpm/100 rpm
Working Life hours	3	

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