

Tra-Con Tra-Cast 3110 Low Density Epoxy Casting System

Category : Polymer , Adhesive , Thermoset , Epoxy

Material Notes:

TRA-CAST 3110 is a unicellular, low density, syntactic-foam epoxy resin casting system of medium viscosity that easily handles, mixes and cures at room temperature. Developed for industrial encapsulating, embedding and casting applications, it is suitable for aerospace honeycomb edge filling and for electronic potting jobs requiring a light weight, low shrinkage, and low expansion resin system. Other important properties include a low exotherm while curing, a low dielectric constant coupled with high dielectric strength, a high strength-to-weight ratio, and a low thermal expansion coefficient over an operating temperature range from -50 to 150°C. Fully cured TRA-CAST 3110 is a gray, rigid, durable solid material that can be easily machined, cut, drilled, and shaped with ordinary shop tools. In addition, this excellent electrical insulator resists water, weather, gases, vapors, salts and salt solutions, alcohol, mild acids and alkalis, jet fuels, many petroleum products, salt water, and numerous other organic and inorganic compounds. Information provided by Tra-Con Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Tra-Con-Tra-Cast-3110-Low-Density-Epoxy-Casting-System.php

Physical Properties	Metric	English	Comments
Specific Gravity	0.800 g/cc	0.800 g/cc	Mixed
Volatile Organic Compounds (VOC) Content	2.74 g/l	2.74 g/l	
Viscosity	44000 cP @Temperature 25.0 °C	44000 cP @Temperature 77.0 °F	Mixed (sp #6, 10 rpm)

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	77	77	
Adhesive Bond Strength	4.14 MPa	600 psi	Lap shear, alum to alum, 24 hrs @ 25°C
	7.58 MPa	1100 psi	Lap shear, alum to alum, 4 hrs @ 25°C + 2 hrs @ 65°C
Izod Impact, Notched	0.107 J/cm	0.200 ft-lb/in	

Thermal Properties	Metric	English	Comments
CTE, linear	54.9 µm/m-°C	30.5 µin/in-°F	Below Tg
	119 µm/m-°C	66.1 µin/in-°F	Above Tg
Thermal Conductivity	0.130 W/m-K	0.902 BTU-in/hr-ft ² -°F	
Maximum Service Temperature, Air	150 °C	302 °F	
Minimum Service Temperature, Air	-50.0 °C	-58.0 °F	

Glass Transition Temp, Tg Thermal Properties	62.0 °C Metric	144 °F English	Ultimate Tg Comments
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Electrical Properties	Metric	English	Comments
Volume Resistivity	2.40e+14 ohm-cm	2.40e+14 ohm-cm	
Dielectric Constant	2.9	2.9	
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Strength	14.8 kV/mm	375 kV/in	

Processing Properties	Metric	English	Comments
Cure Time	360 min	6.00 hour	4 hrs @ 25°C + 2 hrs @ 65°C
	1440 min	24.0 hour	
	@Temperature 25.0 °C	@Temperature 77.0 °F	
Pot Life	30 min	30 min	25 grams
	60 min	60 min	100 grams

Descriptive Properties	Value	Comments
Color	Gray	
Heat Distortion Temperature °C	94	3 hrs @ 65°C
Mix Ratio, parts by weight	100/9	Resin/Hardener
Outgassing, NASA, %CVCM	0.04	
Outgassing, NASA, %TWL	0.6	
Thixotropic Index	1.3	10 rpm/100 rpm
Working Life hours	1.5	100 grams

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