

## Tra-Con Tra-Cast 3103 General Purpose Epoxy Casting Compound

Category : Polymer , Adhesive , Thermoset , Epoxy

### Material Notes:

TRA-CAST 3103 is a low viscosity two-part formulation recommended for general purpose electrical potting and encapsulating application where the combination of good mechanical thermal and electrical properties are required. It is an all liquid system with excellent flow and wetting characteristics, exhibits superior adhesion to glass, ceramics most metals, many plastics (includes potting shells) and other electronic materials, contains no solvents, and is easily mixed, handled and cured with minimum shrinkage at room temperatures. The fully cured TRA-CAST 3103 is an electrical insulator with good impact and thermal shock resistance. It is further resistant to water, weather, gases, galvanic action, petroleum fuels and solvents, alcohol, salts and many acids and alkalis. Information provided by Tra-Con Inc.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Tra-Con-Tra-Cast-3103-General-Purpose-Epoxy-Casting-Compound.php](http://www.lookpolymers.com/polymer_Tra-Con-Tra-Cast-3103-General-Purpose-Epoxy-Casting-Compound.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.58 g/cc	1.58 g/cc	Mixed
Solids Content	100 %	100 %	Reactive Solids Content
Viscosity	4000 cP @Temperature 25.0 °C	4000 cP @Temperature 77.0 °F	After mixing

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	85	85	
Adhesive Bond Strength	17.9 MPa	2600 psi	Lap shear, alum to alum, 2 hrs @ 65°C

Thermal Properties	Metric	English	Comments
CTE, linear	35.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ @Temperature 20.0 °C	19.4 $\mu\text{in}/\text{in}\cdot\text{°F}$ @Temperature 68.0 °F	
Thermal Conductivity	0.500 W/m-K	3.47 BTU-in/hr-ft <sup>2</sup> -°F	
Maximum Service Temperature, Air	145 °C	293 °F	
Minimum Service Temperature, Air	-60.0 °C	-76.0 °F	
Glass Transition Temp, Tg	80.0 °C	176 °F	Ultimate Tg

Electrical Properties	Metric	English	Comments
Volume Resistivity	4.00e+16 ohm-cm	4.00e+16 ohm-cm	
	4.00e+14 ohm-cm @Temperature 100 °C	4.00e+14 ohm-cm @Temperature 212 °F	

Electrical Properties	Metric	English	Comments
Dielectric Constant	@Frequency 100000 Hz	@Frequency 100000 Hz	
	4.1	4.1	
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Strength	20.1 kV/mm	510 kV/in	
Dissipation Factor	0.010	0.010	
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.010	0.010	
	@Frequency 100000 Hz	@Frequency 100000 Hz	

Processing Properties	Metric	English	Comments
Cure Time	240 min	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	Black	
Cytotoxicity Study	Passes	ISO 10993-5, elution method
Heat Distortion Temperature °C	102	
Mix Ratio, parts by weight	100/105	Resin/Hardener
Outgassing, NASA	Passes	
Thixotropic Index	1.3	5 rpm/50 rpm

## Contact Songhan Plastic Technology Co.,Ltd.

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