

## Tra-Con Tra-Duct 2902 Room Temperature Conductive Silver Epoxy Adhesive

Category : Polymer , Adhesive , Thermoset , Epoxy , Epoxy, Electrically Conductive , Filled/Reinforced Thermoset

### Material Notes:

TRA-DUCT 2902 is an electrically conducting silver-filled epoxy compound recommended for electronic bonding and sealing applications that require a combination of good mechanical and electrical properties. This two-part, smooth paste formulation of refined pure silver and epoxy is free of solvents and copper or carbon additives. It develops strong, durable, electrically and thermally conducting bonds and coatings between many different and dissimilar materials such as metals, ceramics, glass and plastic laminates. TRA-DUCT 2902 cures at room temperature and can be used as a cold solder for heat-sensitive components where hot-soldering is impractical. It also can be used for the assembly and repair of electrical modules, printed circuits, wave guides, flat cables and high frequency shields. This adhesive complies with the requirements of NASA Outgassing Specification. Information provided by Tra-Con Inc.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Tra-Con-Tra-Duct-2902-Room-Temperature-Conductive-Silver-Epoxy-Adhesive.php](http://www.lookpolymers.com/polymer_Tra-Con-Tra-Duct-2902-Room-Temperature-Conductive-Silver-Epoxy-Adhesive.php)

Physical Properties	Metric	English	Comments
Specific Gravity	3.20 g/cc	3.20 g/cc	Mixed
Viscosity	20000 cP	20000 cP	Mixed (cp #52, 10 rpm)

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	80	80	
Adhesive Bond Strength	4.83 MPa	700 psi	Lap shear, alum to alum, 24 hrs @ 25°C
	6.89 MPa	1000 psi	Lap shear, alum to alum, 2 hrs @ 65°C
	11.0 MPa	1600 psi	Lap shear, alum to alum, 1 hr @ 110°C
	11.0 MPa	1600 psi	Lap shear, alum to alum, 15 min @ 150°C

Thermal Properties	Metric	English	Comments
CTE, linear	49.0 $\mu\text{m/m-}^\circ\text{C}$	27.2 $\mu\text{in/in-}^\circ\text{F}$	
	@Temperature 20.0 $^\circ\text{C}$	@Temperature 68.0 $^\circ\text{F}$	
Thermal Conductivity	2.99 W/m-K	20.8 BTU-in/hr-ft <sup>2</sup> - $^\circ\text{F}$	
Maximum Service Temperature, Air	110 $^\circ\text{C}$	230 $^\circ\text{F}$	
Minimum Service Temperature, Air	-60.0 $^\circ\text{C}$	-76.0 $^\circ\text{F}$	
Glass Transition Temp, Tg	52.0 $^\circ\text{C}$	126 $^\circ\text{F}$	Ultimate Tg, 24 hrs @ 25°C

Electrical Properties	Metric	English	Comments
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Electrical Properties	Metric	English	Comments
	0.00050 ohm-cm	0.00050 ohm-cm	cured 15 min @ 150°C
	0.00060 ohm-cm	0.00060 ohm-cm	cured 1 hr @ 110°C
	0.00090 ohm-cm	0.00090 ohm-cm	cured 2 hrs @ 65°C
	0.0010 ohm-cm	0.0010 ohm-cm	cured 24 hrs @ 25°C

Processing Properties	Metric	English	Comments
Cure Time	60.0 - 240 min	1.00 - 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	60 min	60 min	

Descriptive Properties	Value	Comments
Color	Silver	
Cytotoxicity Study	Passes	ISO 10993-5, elution method
Mix Ratio, parts by weight	100/6	Resin/Hardener
Outgassing, NASA	Passes	
Outgassing, NASA, %CVCM	0.05	

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