

Master Bond EP21TDCN Two Component Nickel Conductive Epoxy Adhesive

Category : Polymer , Thermoset , Epoxy , Epoxy Encapsulant, Unreinforced

Material Notes:

Product Description: Master Bond Polymer System EP21TDCN is a two component, nickel filled, electrically conductive, adhesive for high performance bonding, formulated to cure at room temperature or more rapidly at elevated temperatures. Unlike the majority of two part nickel conductive epoxy systems, the EP21TDCN has a one-to-one mix ratio, by weight or volume. It readily develops a high bonding strength of more than 1800 psi tensile shear and a T-peel of greater than 20 pli when measured and cured at 75°F. It is 100% reactive and does not contain any diluents or solvents. The volume resistivity of the cured system is 5-10 ohm-cm. Master Bond Polymer System EP21TDCN can be applied with minimal sagging or dripping even on vertical surfaces although it can be made thinner (flowable) by adding 5 to 10% of an appropriate solvent (xylene, acetone, toluene, etc.) by weight. The high strength bonds respond well to thermal cycling and are resistant to chemicals including water, oil and most organic solvents. EP21TDCN has a service temperature range of -100°F to more than +275°F. Adhesion to metals, glass, ceramics, vulcanized rubbers and many plastics is excellent. Parts A and B are both colored nickel. Master Bond EP21TDCN adhesive is widely used in the electronic, electrical, computer, semiconductor, microwave, appliance, and automotive applications. For convenient handling, EP21TDCN is now available in premixed and frozen syringes. **Product Advantages:** Convenient mixing: 1 to 1 by weight or volume Contains no volatiles; excellent low outgassing properties Easy application: contact pressure only required for cure; adhesive spreads evenly and smoothly. Versatile cure schedules: ambient temperature cures or fast elevated temperature cures as required. Good electrical conductivity. High bond strength to similar and dissimilar substrates. Superior durability, thermal shock and chemical resistance. Outstanding toughness; much less rigid than conventional nickel epoxy Information provided by MasterBond®

Order this product through the following link:

http://www.lookpolymers.com/polymer_Master-Bond-EP21TDCN-Two-Component-Nickel-Conductive-Epoxy-Adhesive.php

Mechanical Properties	Metric	English	Comments
Shear Strength	>= 12.4 MPa	>= 1800 psi	after 30 days water immersion, Al/Al, Bond
	>= 12.8 MPa	>= 1850 psi	Al/Al, Bond
Peel Strength	>= 3.51 kN/m	>= 20.0 pli	T-peel

Thermal Properties	Metric	English	Comments
Thermal Conductivity	1.59 W/m-K	11.0 BTU-in/hr-ft ² -°F	
Maximum Service Temperature, Air	135 °C	275 °F	
Minimum Service Temperature, Air	-73.3 °C	-100 °F	

Electrical Properties	Metric	English	Comments
Volume Resistivity	5.0 - 10 ohm-cm	5.0 - 10 ohm-cm	

Processing Properties	Metric	English	Comments
Cure Time	2160 - 2880 min	36.0 - 48.0 hour	90% of maximum strength developed within
Pot Life	60 - 75 min	60 - 75 min	200 gram mass
	75 - 90 min	75 - 90 min	100 gram mass
Shelf Life	3.00 - 6.00 Month @Temperature 23.9 °C	3.00 - 6.00 Month @Temperature 75.0 °F	in unopened containers

Descriptive Properties	Value	Comments
Mixing Ratio (A to B)	1/1	by weight or volume

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