

Master Bond EP21CLV Two Component Epoxy System

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

Material Notes:

Product Description: Master Bond EP21CLV is a two component, lower viscosity epoxy resin system for high performance bonding, sealing, coating, encapsulation and casting. It features easy handling and versatility with application usage. It is formulated to cure readily at room temperature or more quickly at elevated temperatures. It has a very forgiving one to one mix ratio by weight or volume. EP21CLV has the unusual characteristic of being able to adjust the properties of the cured system by altering the mix ratio. Adding more of Part A (e.g. a two to one mix ratio) gives a more rigid cure, for enhanced machinability. While adding more of Part B (e.g. a one to two mix ratio) gives a more forgiving cure, for greater impact resistance. EP21CLV produces high strength, durable bonds which hold up well to thermal cycling and resists many chemicals including water, oils, fuels, acids, bases and salts. It is serviceable over the wide temperature range of -65°F to +250°F. It bonds well to a variety of substrates including metals, composites, glass, ceramics, wood, rubbers and many plastics. Once cured, EP21CLV is an outstanding electrical insulator. This, coupled with its low viscosity, makes it an excellent encapsulating and potting epoxy. EP21CLV contains no solvents or diluents. While the standard color of the cured material is amber-clear, a wide variety of additional color choices are also available. It is widely used in the electronic, electrical, aerospace, metalworking, optical, specialty OEM and related industries. **Product Advantages:** Convenient mixing: non-critical one to one mix ratio by weight or volume Easy application: only contact pressure required while curing; adhesive spreads readily Ambient temperature cures or fast elevated temperature cures as required High bond strength to a wide variety of substrates Superior physical strength properties Good electrical insulation properties; ideal for potting and encapsulation Information provided by MasterBond®

Order this product through the following link:

http://www.lookpolymers.com/polymer_Master-Bond-EP21CLV-Two-Component-Epoxy-System.php

Physical Properties	Metric	English	Comments
Viscosity	10000 - 14000 cP	10000 - 14000 cP	Part A
	11000 - 15000 cP	11000 - 15000 cP	Part B

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	>= 70	>= 70	
Tensile Strength at Break	>= 51.7 MPa	>= 7500 psi	
	@Temperature 23.9 °C	@Temperature 75.0 °F	
Tensile Modulus	2.07 - 2.41 GPa	300 - 350 ksi	
	@Temperature 23.9 °C	@Temperature 75.0 °F	
Shear Strength	>= 19.3 MPa	>= 2800 psi	AI/AI, Tensile lap

Thermal Properties	Metric	English	Comments
CTE, linear	50.0 - 55.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	27.8 - 30.6 $\mu\text{in}/\text{in}\cdot\text{°F}$	
Maximum Service Temperature, Air			

Thermal Properties	121 °C Metric	250 °F English	Comments
Minimum Service Temperature, Air	-53.9 °C	-65.0 °F	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	
Dielectric Strength	17.3 kV/mm @Thickness 3.17 mm	440 kV/in @Thickness 0.125 in	

Processing Properties	Metric	English	Comments
Cure Time	120 - 180 min @Temperature 93.3 °C	2.00 - 3.00 hour @Temperature 200 °F	
	1440 - 2880 min @Temperature 23.9 °C	24.0 - 48.0 hour @Temperature 75.0 °F	
Pot Life	60 - 75 min	60 - 75 min	100 gram mass
Shelf Life	12.0 Month @Temperature 23.9 °C	12.0 Month @Temperature 75.0 °F	in original, unopened containers

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

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