

## Master Bond EP21AOLV-1 Two Part, Room Temperature Curing Epoxy System

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

### Material Notes:

**Product Description:** Master Bond Polymer Adhesive EP21AOLV-1 is a two component, thermally conductive, electrically isolating epoxy adhesive, sealant and coating. This versatile system will adhere to a wide variety of substrates including metals, glass, ceramics and many plastics. While its primary use is for potting and encapsulating, it is also an excellent adhesive that forms high strength bonds. EP21AOLV-1 resists a wide range of chemicals including water, oils, fuels and many solvents. The service temperature range for this epoxy is -60°F to +250°F. Other properties include a low coefficient of expansion, excellent dimensional stability, a high modulus and compressive strength. These physical properties combined with good thermal conductivity and electrical insulation make EP21AOLV-1 good for a variety of applications. When used as an encapsulating system, it has convenient handling with a one to one mix ratio by weight or volume. Its ability to flow readily and smoothly is another benefit. The color of Part A is gray; the color of Part B is off-white. EP21AOLV-1 is widely used in the electronic, electro-optical and related industries where excellent heat transfer and electrical insulation are required.

**Product Advantages:** Convenient mixing: non-critical equal weight or volume ratio. Easy application: readily flowable when potting; brushable when bonding. Versatile cure schedules: ambient temperature cures or fast elevated temperature cures. High bonding strength to a wide variety of substrates. Low coefficient of expansion, low shrinkage and good dimensional stability. Great durability, thermal shock and chemical resistance. Thermal conductivity, over 10 BTU·in/ft<sup>2</sup> ·hr·°F. Excellent electrical insulation properties. Long working life. Information provided by MasterBond®

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Master-Bond-EP21AOLV-1-Two-Part-Room-Temperature-Curing-Epoxy-System.php](http://www.lookpolymers.com/polymer_Master-Bond-EP21AOLV-1-Two-Part-Room-Temperature-Curing-Epoxy-System.php)

Physical Properties	Metric	English	Comments
Viscosity	4000 - 8000 cP	4000 - 8000 cP	Part A
	50000 - 65000 cP	50000 - 65000 cP	Part B

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	>= 80	>= 80	
Tensile Strength at Break	>= 34.5 MPa	>= 5000 psi	
	@Temperature 23.9 °C	@Temperature 75.0 °F	
Tensile Modulus	>= 3.10 GPa	>= 450 ksi	
	@Temperature 23.9 °C	@Temperature 75.0 °F	
Compressive Strength	>= 96.5 MPa	>= 14000 psi	
Shear Strength	>= 7.58 MPa	>= 1100 psi	AI/AI, bond

Thermal Properties	Metric	English	Comments
CTE, linear	22.0 - 25.0 µm/m-°C	12.2 - 13.9 µin/in-°F	

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	121 °C	250 °F	
Minimum Service Temperature, Air	-51.1 °C	-60.0 °F	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+13 ohm-cm	>= 1.00e+13 ohm-cm	
Dielectric Constant	4.62 @Temperature 25.0 °C	4.62 @Temperature 77.0 °F	
Dielectric Strength	>= 15.7 kV/mm @Thickness 3.17 mm	>= 400 kV/in @Thickness 0.125 in	
Dissipation Factor	0.0080 @Frequency 60.0 Hz, Temperature 25.0 °C	0.0080 @Frequency 60.0 Hz, Temperature 77.0 °F	

Processing Properties	Metric	English	Comments
Cure Time	120 - 180 min @Temperature 93.3 °C	2.00 - 3.00 hour @Temperature 200 °F	
Pot Life	2880 - 4320 min @Temperature 23.9 °C	48.0 - 72.0 hour @Temperature 75.0 °F	
Shelf Life	90 - 120 min	90 - 120 min	100 gram mass
	6.00 Month @Temperature 23.9 °C	6.00 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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