

Master Bond EP38CL Adhesive Features Toughness and Durability

Category : Polymer , Adhesive , Thermoset , Epoxy , Epoxy Adhesive

Material Notes:

Description: Master Bond EP38CL is a lower viscosity, optically clear two component epoxy system for high performance bonding, coating, sealing and small encapsulations, featuring toughness and durability. The mix ratio is 100:60 by weight. This system has easy handling with a working life of 40-50 minutes. Its physical appearance optically clear and glossy. EP38CL has a relatively higher Shore D hardness its special blend confers upon it a "toughness". Specifically, it possesses good impact resistance, thermal cycling capabilities as well as the ability to withstand mechanical shock better than typical epoxies that are higher on the Shore D scale. Also, EP38CL bonds well to a wide variety of substrates, such as metals, ceramics, glass, composites, many rubbers and plastics. Its electrical insulation properties are solid. The service temperature range is -60°F to +250°F. EP38CL is used in optical, aerospace, opto-electronic and specialty OEM applications, particularly when a rigid system with good toughness is desirable. **Product Advantages:** Easy to apply by roller or brush. Convenient working life Excellent toughness, capable of withstanding aggressive thermal cycling Appealing electrical insulation properties Imposing optical clarity Reliable adhesion to a variety of substrates Good physical strength properties as well as low shrinkage upon curing **Key Features** Excellent optical clarity Electrically insulative Outstanding toughness Excellent thermal cycling resistance Information provided by MasterBond®

Order this product through the following link:

http://www.lookpolymers.com/polymer_Master-Bond-EP38CL-Adhesive-Features-Toughness-and-Durability.php

Physical Properties	Metric	English	Comments
Viscosity	200 - 400 cP	200 - 400 cP	Part B
	1000 - 4000 cP	1000 - 4000 cP	mixed compound
	11000 - 15000 cP	11000 - 15000 cP	Part A

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	>= 75	>= 75	
Tensile Strength at Break	>= 51.7 MPa	>= 7500 psi	
Tensile Modulus	>= 2.07 GPa	>= 300 ksi	
Compressive Strength	>= 55.2 MPa	>= 8000 psi	
Shear Strength	>= 17.2 MPa	>= 2500 psi	Tensile lap, Al to Al

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	121 °C	250 °F	
Minimum Service Temperature, Air	-51.1 °C	-60.0 °F	
Shrinkage	<= 0.10 %	<= 0.10 %	

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.00 \times 10^{14}$ ohm-cm	$\geq 1.00 \times 10^{14}$ ohm-cm	
Dielectric Constant	3.6 @Frequency 60.0 Hz, Temperature 25.0 °C	3.6 @Frequency 60.0 Hz, Temperature 77.0 °F	

Processing Properties	Metric	English	Comments
Cure Time	60.0 - 120 min @Temperature 93.3 °C	1.00 - 2.00 hour @Temperature 200 °F	
	720 min @Temperature 23.9 °C	12.0 hour @Temperature 75.0 °F	followed by 1-2 hours at 150-200°F
	1440 - 2880 min @Temperature 23.9 °C	24.0 - 48.0 hour @Temperature 75.0 °F	
Pot Life	40 - 50 min	40 - 50 min	100 gram batch
Shelf Life	12.0 Month @Temperature 23.9 °C	12.0 Month @Temperature 75.0 °F	in original unopened container

Descriptive Properties	Value	Comments
Mixing Ratio (A to B)	100:60	by weight

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