

## Master Bond EP45HT-1 Adhesive Resists Exposure to Sterilization

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

### Material Notes:

Description: Master Bond Polymer System EP45HT-1 is a remarkably fast curing, medium viscosity, two component epoxy compound formulated for high performance casting and bonding. It is 100% reactive and does not contain any diluents, solvents or other volatiles. Master Bond Polymer System EP45HT-1 is readily prepared for use by mixing the two components with a convenient two (2) to one (1) ratio by weight. Cure is moderately fast even at relatively low temperatures and high relative humidities. The ready cure characteristics coupled with excellent thermal stability, resistance to blushing and exudation, high toughness and superior wear resistance make EP45HT-1 particularly attractive for applications where new castings must be put into service within a matter of hours and then perform well over long periods of service especially where long term retention of dimensional stability is important. Recommended cure is to heat for approximately 2 hours at 160-180°F for gelation and then increasing the temperature to around 300°F and heating for 3-4 hours to complete cure. Master Bond Polymer System EP45HT-1 has proven ideally suited for industrial as well as institutional and commercial casting applications particularly in applications requiring durability, chemical resistance, easy, low cost maintenance and high degree of dimensional stability. It is highly recommended for casting and bonding in the electronic, electrical, electro-mechanical, computer, optical and related industries. Product Advantages: Convenient mixing: easy-to-use mix ratio, two (2) to one (1) by weight. 100% reactive: minimum shrinkage upon cure. Fast cures with convenient tack-free time even at moderate temperatures and high relative humidity. Resistance to blushing and exudation. Superior thermal stability up to 400-450°F service . High toughness and long term dimensional stability. Excellent long term dimensional stability. High bonding strength to substrates. Safety hardener with minimum irritation and skin sensitizing effects compared to conventional Information provided by MasterBond®

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Master-Bond-EP45HT-1-Adhesive-Resists-Exposure-to-Sterilization.php](http://www.lookpolymers.com/polymer_Master-Bond-EP45HT-1-Adhesive-Resists-Exposure-to-Sterilization.php)

Physical Properties	Metric	English	Comments
Water Absorption	<= 0.50 %	<= 0.50 %	48 hrs immersion
Viscosity	800 - 1000 cP	800 - 1000 cP	Part A
	3000 - 5000 cP	3000 - 5000 cP	Part B

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	31.1 MPa	4510 psi	
	@Temperature 177 °C	@Temperature 350 °F	
	56.8 MPa	8240 psi	
	@Temperature 121 °C	@Temperature 250 °F	
	64.8 MPa	9400 psi	
	@Temperature 65.6 °C	@Temperature 150 °F	
	76.5 MPa	11100 psi	

<b>Mechanical Properties</b>	<b>@Temperature 25.0 °C Metric</b>	<b>@Temperature 77.0 °F English</b>	<b>Comments</b>
<b>Elongation at Break</b>	<b>0.61 %</b>	<b>0.61 %</b>	
	@Temperature 25.0 °C	@Temperature 77.0 °F	
	<b>0.73 %</b>	<b>0.73 %</b>	
	@Temperature 65.6 °C	@Temperature 150 °F	
	<b>1.105 %</b>	<b>1.105 %</b>	
	@Temperature 121 °C	@Temperature 250 °F	
	<b>1.78 %</b>	<b>1.78 %</b>	
	@Temperature 177 °C	@Temperature 350 °F	
<b>Tensile Modulus</b>	<b>4.41 GPa</b>	<b>640 ksi</b>	
	@Temperature 177 °C	@Temperature 350 °F	
	<b>6.41 GPa</b>	<b>930 ksi</b>	
	@Temperature 121 °C	@Temperature 250 °F	
	<b>9.65 GPa</b>	<b>1400 ksi</b>	
	@Temperature 65.6 °C	@Temperature 150 °F	
	<b>14.2 GPa</b>	<b>2060 ksi</b>	
	@Temperature 25.0 °C	@Temperature 77.0 °F	
<b>Flexural Strength</b>	<b>41.4 MPa</b>	<b>6000 psi</b>	
	@Temperature 177 °C	@Temperature 350 °F	
	<b>75.57 MPa</b>	<b>10960 psi</b>	
	@Temperature 121 °C	@Temperature 250 °F	
	<b>88.3 MPa</b>	<b>12800 psi</b>	
	@Temperature 65.6 °C	@Temperature 150 °F	
	<b>106 MPa</b>	<b>15400 psi</b>	
	@Temperature 25.0 °C	@Temperature 77.0 °F	
<b>Flexural Modulus</b>	<b>3.93 GPa</b>	<b>570 ksi</b>	
	@Temperature 177 °C	@Temperature 350 °F	
	<b>6.34 GPa</b>	<b>920 ksi</b>	
	@Temperature 121 °C	@Temperature 250 °F	
	<b>8.07 GPa</b>	<b>1170 ksi</b>	
	@Temperature 65.6 °C	@Temperature 150 °F	

Mechanical Properties	Metric	English	Comments
	12.7 GPa	1810 ksi	
	@Temperature 25.0 °C	@Temperature 77.0 °F	
Taber Abrasion, mg/1000 Cycles	<= 24	<= 24	
	@Load 2.00 kg	@Load 4.41 lb	

Thermal Properties	Metric	English	Comments
CTE, linear	36.1 µm/m-°C	20.1 µin/in-°F	
Heat Distortion Temperature	42.2 °C	108 °F	
Flash Point	90.6 °C	195 °F	
	96.7 °C	206 °F	

Optical Properties	Metric	English	Comments
Gardner Color Number	<= 2.0	<= 2.0	
	<= 3.0	<= 3.0	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+14 ohm-cm	>= 1.00e+14 ohm-cm	

Processing Properties	Metric	English	Comments
Cure Time	180 - 240 min	3.00 - 4.00 hour	
	@Temperature 149 °C	@Temperature 300 °F	
Pot Life	>= 180 min	>= 180 min	400 gram batch
Gel Time	120 min	120 min	
	@Temperature 71.1 - 82.2 °C	@Temperature 160 - 180 °F	

Descriptive Properties	Value	Comments
Mixing Ratio (A to B)	2/1	by weight

## Contact Songhan Plastic Technology Co.,Ltd.

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