

Resinlab® EP1285HD-16 Highly Filled, Medium Viscosity Casting Resin

Category : Polymer , Thermoset , Epoxy , Epoxy Cure Resin , Epoxy, Cast, Metal Filled

Material Notes:

Resinlab™ EP1285 (Formerly Lab Product W021901 series) is a highly filled, medium viscosity black casting resin designed for applications requiring a high degree of thermal conductivity and a low CTE combined with a moderate free flowing viscosity. They give excellent resistance to acids, bases, water, and most organic compounds. The high filler content also enhances resistance to thermal cycle stresses. The choice of hardener allows the user to choose a variety of reactivity's, viscosities, thermal ranges and environmental resistance capabilities. The resin contains a high loading of abrasive aluminum oxide filler, which can introduce wear considerations for wetted components of meter-mix and dispensing equipment. Warming the assembly prior to filling will aid in flow and air release. Additional vacuum degassing may be desired for some applications. Information Provided by Resinlab L.L.C., an Ellsworth Adhesives Company.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Resinlab-EP1285HD-16-Highly-Filled-Medium-Viscosity-Casting-Resin.php

Physical Properties	Metric	English	Comments
Specific Gravity	2.12 g/cc	2.12 g/cc	
Water Absorption	0.17 %	0.17 %	TM R050-35
	@Time 86400 sec	@Time 24.0 hour	
Viscosity	17000 cP	17000 cP	Mixed, RVT, #6, 2.5 rpm; TM R050-12
Linear Mold Shrinkage	0.0030 cm/cm	0.0030 in/in	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	92	92	TM R050-19
Tensile Strength at Break	27.6 MPa	4000 psi	TM R050-36
Tensile Strength, Ultimate	27.6 MPa	4000 psi	TM R050-36
Tensile Strength, Yield	13.8 MPa	2000 psi	TM R050-36
Elongation at Break	1.0 - 3.0 %	1.0 - 3.0 %	TM R050-36
Tensile Modulus	4.14 GPa	600 ksi	TM R050-36
Compressive Yield Strength	41.4 MPa	6000 psi	TM R050-38
Compressive Strength	55.2 MPa	8000 psi	Break; TM R050-38
	65.5 MPa	9500 psi	Ultimate; TM R050-38
Compressive Modulus	3.45 GPa	500 ksi	TM R050-38
Adhesive Bond Strength	18.6 MPa	2700 psi	Lap shear; 2024 T3 Al Abraded / MEK Wipe

Thermal Properties	Metric	English	Comments
CTE, linear	39.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	21.7 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	below Tg
	@Temperature $\leq 58.0^{\circ}\text{C}$	@Temperature $\leq 136^{\circ}\text{F}$	
	111 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	61.7 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	above Tg
	@Temperature $\geq 58.0^{\circ}\text{C}$	@Temperature $\geq 136^{\circ}\text{F}$	
Thermal Conductivity	1.10 W/m-K	7.63 BTU-in/hr-ft ² -°F	
Maximum Service Temperature, Air	120 °C	248 °F	
Minimum Service Temperature, Air	-60.0 °C	-76.0 °F	
Glass Transition Temp, Tg	58.0 °C	136 °F	TM R050-25

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.00\text{e}+15$ ohm-cm	$\geq 1.00\text{e}+15$ ohm-cm	
Dielectric Constant	5.4	5.4	
Dielectric Strength	14.8 kV/mm	375 kV/in	

Processing Properties	Metric	English	Comments
Cure Time	120 - 240 min	2.00 - 4.00 hour	
	@Temperature 45.0 °C	@Temperature 113 °F	
	480 - 960 min	8.00 - 16.0 hour	
	@Temperature 25.0 °C	@Temperature 77.0 °F	
Pot Life	60 - 90 min	60 - 90 min	Mass: 100g; TM R050-17

Descriptive Properties	Value	Comments
Color	Black	
Mix Ratio	13.4:1	Weight
	5.7:1	Volume

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