

Resinlab® EP1285HD-12 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-12-Highly-Filled-Medium-Viscosity-Casting-Resin.php

Physical Properties	Metric	English	Comments
Specific Gravity	2.15 g/cc	2.15 g/cc	
Water Absorption	0.030 %	0.030 %	TM R050-35
	@Time 86400 sec	@Time 24.0 hour	
Viscosity	20000 cP	20000 cP	Mixed, RVT, #6, 2.5 rpm; TM R050-12
Linear Mold Shrinkage	0.0020 cm/cm	0.0020 in/in	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	95	95	TM R050-19
Tensile Strength at Break	17.2 MPa	2500 psi	TM R050-36
Tensile Strength, Ultimate	17.2 MPa	2500 psi	TM R050-36
Tensile Strength, Yield	6.89 MPa	1000 psi	TM R050-36
Elongation at Break	0.00 - 1.0 %	0.00 - 1.0 %	TM R050-36
Tensile Modulus	7.58 GPa	1100 ksi	TM R050-36
Compressive Yield Strength	62.1 MPa	9000 psi	TM R050-38
Compressive Strength	68.9 MPa	10000 psi	Break; TM R050-38
	86.2 MPa	12500 psi	Ultimate; TM R050-38
Compressive Modulus	4.48 GPa	650 ksi	TM R050-38
Adhesive Bond Strength	11.7 MPa	1700 psi	Lap shear; 2024 T3 Al Abraded / MEK Wipe

Thermal Properties	Metric	English	Comments
CTE, linear	31.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	17.2 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	below Tg
	@Temperature $\leq 132^{\circ}\text{C}$	@Temperature $\leq 270^{\circ}\text{F}$	
	98.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	54.4 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	above Tg
	@Temperature $\geq 132^{\circ}\text{C}$	@Temperature $\geq 270^{\circ}\text{F}$	
Thermal Conductivity	1.28 W/m-K	8.88 BTU-in/hr-ft ² -°F	
Maximum Service Temperature, Air	150 °C	302 °F	
Minimum Service Temperature, Air	-50.0 °C	-58.0 °F	
Glass Transition Temp, Tg	132 °C	270 °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	15.0 kV/mm	380 kV/in	

Processing Properties	Metric	English	Comments
Cure Time	30.0 - 60.0 min	0.500 - 1.00 hour	
	@Temperature 120 °C	@Temperature 248 °F	
	120 - 240 min	2.00 - 4.00 hour	
	@Temperature 100 °C	@Temperature 212 °F	
	480 - 720 min	8.00 - 12.0 hour	
	@Temperature 80.0 °C	@Temperature 176 °F	
Pot Life	180 - 240 min	180 - 240 min	Mass: 100g; TM R050-17

Descriptive Properties	Value	Comments
Color	Black	
Mix Ratio	15.55:1	Weight
	6.55:1	Volume

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