

Solvay Specialty Polymers Amodel® HFZ A-4133L Polyphthalamide (PPA) (Unverified Data**)

Category : Polymer , Thermoplastic , Polyphthalamide (PPA) , Polyphthalamide (PPA), 30% Glass Fiber Reinforced

Material Notes:

Amodel HFZ A-4133 L polyphthalamide (PPA) is a 33% glass-reinforced, hot water moldable resin. Key properties include heat resistance, reduced outgassing and high strength and stiffness over a broad temperature range. It also displays low moisture absorption, excellent chemical resistance and excellent electrical properties. Amodel HFZ A-4133 L resin is ideal for automotive electrical and electronic applications, including connectors, sockets, switches and sensors. It is also a good choice for under-hood enclosures that protect critical control systems such as anti-lock brakes, traction control, steering, electronic engine control, transmission and chassis control units. -

Black: HFZ A-4133 L BK 324 - Natural: HFZ A-4133 L NT
Injection Notes: Injection Pressure: 3 to 4 in/sec
Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Amodel-HFZ-A-4133L-Polyphthalamide-PPA-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.46 g/cc	0.0527 lb/in ³	ISO 1183/A
Filler Content	33 %	33 %	Glass Fiber Reinforcement
Water Absorption	0.26 % @Time 86400 sec	0.26 % @Time 24.0 hour	ASTM D570
Linear Mold Shrinkage, Flow	0.0050 cm/cm	0.0050 in/in	ASTM D955
Linear Mold Shrinkage, Transverse	0.010 cm/cm	0.010 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	180 MPa	26100 psi	ISO 527-2
Elongation at Break	1.8 %	1.8 %	ISO 527-2
Tensile Modulus	12.0 GPa	1740 ksi	ISO 527-2
Flexural Strength	255 MPa	37000 psi	ISO 178
Flexural Modulus	11.0 GPa	1600 ksi	ISO 178
Izod Impact, Notched (ISO)	8.40 kJ/m ²	4.00 ft-lb/in ²	ISO 180/1A
Izod Impact, Unnotched (ISO)	40.0 kJ/m ²	19.0 ft-lb/in ²	ISO 180/1U
Charpy Impact, Notched	0.820 J/cm ²	3.90 ft-lb/in ²	ISO 179/1eA

Thermal Properties	Metric	English	Comments
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Thermal Properties	Metric	English	Comments
<i>CTE, linear, Parallel to Flow</i>	14.0 $\mu\text{m}/\text{m}\cdot\text{C}$	7.78 $\mu\text{in}/\text{in}\cdot\text{F}$	TMA; ASTM E831
	@Temperature 150 - 250 °C	@Temperature 302 - 482 °F	
	20.0 $\mu\text{m}/\text{m}\cdot\text{C}$	11.1 $\mu\text{in}/\text{in}\cdot\text{F}$	TMA; ASTM E831
	@Temperature 0.000 - 90.0 °C	@Temperature 32.0 - 194 °F	
CTE, linear, Transverse to Flow	63.0 $\mu\text{m}/\text{m}\cdot\text{C}$	35.0 $\mu\text{in}/\text{in}\cdot\text{F}$	ASTM E831
	@Temperature 0.000 - 90.0 °C	@Temperature 32.0 - 194 °F	
	150 $\mu\text{m}/\text{m}\cdot\text{C}$	83.3 $\mu\text{in}/\text{in}\cdot\text{F}$	ASTM E831
	@Temperature 150 - 250 °C	@Temperature 302 - 482 °F	
Melting Point	327 °C	621 °F	ISO 3146
Deflection Temperature at 1.8 MPa (264 psi)	310 °C	590 °F	Unannealed; ISO 75-2/A
Flammability, UL94	HB	HB	UL 94
	@Thickness 0.800 mm	@Thickness 0.0315 in	
Glow Wire Test	800 °C	1470 °F	Glow Wire Flammability Index; IEC 60695-2-12
	800 °C	1470 °F	Glow Wire Ignition Temperature; IEC 60695-2-13

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	ASTM D257
Surface Resistance	1.00e+16 ohm	1.00e+16 ohm	ASTM D257
Dielectric Constant	3.7	3.7	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.9	3.9	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
Dielectric Strength	19.0 kV/mm	483 kV/in	ASTM D149
Dissipation Factor	0.0060	0.0060	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
	0.016	0.016	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Electrical Properties	Metric	English	Comments
Hot Wire Ignition, HWI	60 - 120 sec	60 - 120 sec	PLC 1; UL 746
High Amp Arc Ignition, HAI	>= 120 arcs	>= 120 arcs	PLC 0; UL 746
High Voltage Arc-Tracking Rate, HVTR	0.000 - 10.0 mm/min	0.000 - 0.394 in/min	PLC 0; UL 746

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	318 - 324 °C	604 - 615 °F	
Front Barrel Temperature	327 - 332 °C	621 - 630 °F	
Melt Temperature	329 - 343 °C	624 - 649 °F	
Mold Temperature	65.6 - 93.3 °C	150 - 200 °F	
Drying Temperature	120 °C	248 °F	
Dry Time	4.00 hour	4.00 hour	
Moisture Content	0.045 %	0.045 %	

Descriptive Properties	Value	Comments
Additive	Lubricant	
	Mold Release	
Appearance	Black	
	Natural Color	
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	North America	
	South America	
Features	Fast Molding Cycle	
	Good Chemical Resistance	
	Good Creep Resistance	
	Good Dimensional Stability	
	Good Stiffness	

Descriptive Properties	Value	Comments
	High Flow	
	High Stiffness	
	High Strength	
	Hot Water Moldability	
	Low Moisture Absorption	
	Lubricated	
Forms	Pellets	
Generic	PPA	
Processing Method	Water-Heated Mold Injection Molding	
RoHS Compliance	RoHS Compliant	
Uses	Automotive Applications	
	Automotive Electronics	
	Automotive Under the Hood	
	Bobbins	
	Camera Applications	
	Cell Phones	
	Connectors	
	Electrical/Electronic Applications	
	General Purpose	
	Industrial Applications	
	Industrial Parts	
	Lawn and Garden Equipment	
	Machine/Mechanical Parts	
	Metal Replacement	

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