Solvay Specialty Polymers AmodelÂ® HFFR-4133 Polyphthalamide (PPA), 33% Glass Fiber

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

Material Notes:

AmodelÂ® HFFR-4133 is a 33% glass-reinforced, halogen-free, flame retardant polyphthalamide (PPA) resin which offers enhanced processing capabilities for electrical and electronic applications. This resin is rated V-0 by Underwriters Laboratories using the UL94 test and is hot-water moldable. It has high flow and a wide processing window and offers good surface appearance, especially for larger electrical components.Features: Fast Molding Cycle; Flame Retardant; Good Chemical Resistance; Good Creep Resistance; Good Dimensional Stability; Good Electrical Properties; Good Stiffness; Halogen Free; High Strength; Hot Water MoldabilityUses: Connectors; Electrical/Electronic ApplicationsInjection Molding Notes: AmodelÂ® compounds are shipped in moisture-resistant packages at moisture levels according to specifications. Sealed, undamaged bags should be preferably stored in a dry room at a maximum temperature of 50Â°C (122Â°F) and should be protected from possible damage. If only a portion of a package is used, the remaining material should be transferred into a sealable container. It is recommended that AmodelÂ® resins be dried prior to molding.Information provided by Solvay Specialty Polymers.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Amodel-HFFR-4133-Polyphthalamide-PPA-33-Glass-Fiber.php

Physical Properties	Metric	English	Comments
Density	1.46 g/cc	0.0527 lb/inÂ³	ISO 1183
Filler Content	33 %	33 %	Glass Fiber
Water Absorption	0.28 % @Time 86400 sec	0.28 % @Time 24.0 hour	ISO 62
Linear Mold Shrinkage, Flow	0.0032 cm/cm	0.0032 in/in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.013 cm/cm	0.013 in/in	ISO 294-4

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	121	121	ASTM D785
Tensile Strength, Yield	145 - 160 MPa	21000 - 23200 psi	ISO 527-2
Elongation at Break	1.9 - 2.3 %	1.9 - 2.3 %	ISO 527-2
Tensile Modulus	12.0 GPa	1740 ksi	ISO 527-2
Flexural Strength	220 - 230 MPa	31900 - 33400 psi	ISO 178
Flexural Modulus	10.8 GPa	1570 ksi	ISO 178
Izod Impact, Notched (ISO)	7.00 - 8.00 kJ/mÂ²	3.33 - 3.81 ft-lb/inÂ²	Type 1, Notch A; ISO 180

Mechanical Properties	Metric	English	Comments
Izod Impact, Unnotched (ISO)	40.0 - 48.0 kJ/mÂ²	19.0 - 22.8 ft-lb/inÂ²	Type 1; ISO 180

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	12.0 Âµm/m-Â°C @Temperature 100 - 200 Â°C	6.67 Âµin/in-Â°F @Temperature 212 - 392 Â°F	2
	20.0 Âµm/m-Â°C @Temperature 0.000 - 90.0 Â°C	11.1 Âµin/in-Â°F @Temperature 32.0 - 194 Â°F	2
CTE, linear, Transverse to Flow	80.0 Âµm/m-Â°C @Temperature 0.000 - 90.0 Â°C	44.4 Âµin/in-Â°F @Temperature 32.0 - 194 Â°F	TMA; ASTM E831
	130 Âµm/m-Â°C @Temperature 100 - 200 Â°C	72.2 Âµin/in-Â°F @Temperature 212 - 392 Â°F	TMA; ASTM E831
Deflection Temperature at 1.8 MPa (264 psi)	300 Â°C	572 Â°F	Unannealed; Flatwise; ISO 75-2/A
Flammability, UL94	V-0 @Thickness 0.800 mm	V-0 @Thickness 0.0315 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.30e+16 ohm-cm	1.30e+16 ohm-cm	ASTM D257
Dielectric Constant	3.53 @Frequency 1.00e+6 Hz	3.53 @Frequency 1.00e+6 Hz	ASTM D150
	3.78 @Frequency 60.0 Hz	3.78 @Frequency 60.0 Hz	ASTM D150
Dielectric Strength	26.0 kV/mm @Thickness 1.60 mm	660 kV/in @Thickness 0.0630 in	ASTM D149
	30.0 kV/mm @Thickness 0.800 mm	762 kV/in @Thickness 0.0315 in	ASTM D149
Dissipation Factor	0.0050 @Frequency 100 Hz	0.0050 @Frequency 100 Hz	ASTM D150
	0.012 @Frequency 1.00e+6 Hz	0.012 @Frequency 1.00e+6 Hz	ASTM D150

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	2 - 600 V	2 - 600 V	PLC 0, UL 746

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	300 Â°C	572 Â°F	
Front Barrel Temperature	325 Â°C	617 Â°F	
Melt Temperature	340 - 350 Â°C	644 - 662 Â°F	
Mold Temperature	90.0 - 110 Â°C	194 - 230 Â°F	
Drying Temperature	120 Â°C @Time 14400 sec	248 Â°F @Time 4.00 hour	
Moisture Content	0.030 - 0.060 %	0.030 - 0.060 %	Suggested Max

Descriptive Properties	Value	Comments
Additive	Flame Retardant	
Availability	Asia Pacific	
	Europe	
	North America	
Color	Black; Natural	
Form	Pellets	
Processing Technique	Water-Heated Mold Injection Molding	
RoHS Compliance	RoHS Compliant	

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