

Solvay Specialty Polymers Amodel® AS-4133 L Polyphthalamide (PPA), 33% Glass Fiber (Dry)

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

Material Notes:

Amodel® AS-4133 L polyphthalamide (PPA) a 33% glass reinforced, lubricated, structural grade of polyphthalamide (PPA) that offers fast cycle times and is hot water moldable. Typical applications include electrical and electronic components. Features: Fast Molding Cycle; Good Chemical Resistance; Good Creep Resistance; Good Dimensional Stability; Good Stiffness; High Strength; Hot Water Moldability; Low Moisture Absorption; Lubricated Uses: Automotive Applications; Automotive Electronics; Automotive Under the Hood; Cell Phones; Electrical/Electronic Applications; General Purpose; Housings; Industrial Applications; Machine/Mechanical Parts; Metal Replacement; Power/Other Tools; Thick-walled Parts; Valves/Valve Parts Injection Molding Notes: Amodel® 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 50°C (122°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 Amodel® resins be dried prior to molding. Automotive Specifications ASTM D6779 PA105G35 Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Amodel-AS-4133-L-Polyphthalamide-PPA-33-Glass-Fiber-Dry.php

Physical Properties	Metric	English	Comments
Density	1.45 g/cc	0.0524 lb/in ³	ISO 1183
	1.45 g/cc	0.0524 lb/in ³	ASTM D792
Filler Content	33 %	33 %	Glass Fiber
Water Absorption	0.29 %	0.29 %	ISO 62
	@Time 86400 sec	@Time 24.0 hour	
Linear Mold Shrinkage, Flow	0.0050 cm/cm	0.0050 in/in	
Linear Mold Shrinkage, Transverse	0.010 cm/cm	0.010 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	200 MPa	29000 psi	ASTM D638
Elongation at Break	2.5 %	2.5 %	ASTM D638
Tensile Modulus	11.7 GPa	1700 ksi	ASTM D638
Flexural Yield Strength	290 MPa	42100 psi	ASTM D790
Flexural Modulus	11.0 GPa	1600 ksi	ASTM D790
Compressive Strength	179 MPa	26000 psi	ASTM D695

Poissons Ratio Mechanical Properties	0.41 Metric	0.41 English	ASTM E132 Comments
Shear Strength	90.0 MPa	13100 psi	ASTM D732
Izod Impact, Notched	0.800 J/cm	1.50 ft-lb/in	ASTM D256
Izod Impact, Unnotched	9.60 J/cm	18.0 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	14.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	7.78 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	2
	@Temperature 150 - 250 $\text{Å}^\circ\text{C}$	@Temperature 302 - 482 $\text{Å}^\circ\text{F}$	
	22.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	12.2 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	2
	@Temperature 0.000 - 90.0 $\text{Å}^\circ\text{C}$	@Temperature 32.0 - 194 $\text{Å}^\circ\text{F}$	
CTE, linear, Transverse to Flow	59.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	32.8 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	TMA; ASTM E831
	@Temperature 0.000 - 90.0 $\text{Å}^\circ\text{C}$	@Temperature 32.0 - 194 $\text{Å}^\circ\text{F}$	
	120 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	66.7 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	TMA; ASTM E831
	@Temperature 100 - 250 $\text{Å}^\circ\text{C}$	@Temperature 212 - 482 $\text{Å}^\circ\text{F}$	
Melting Point	327 $\text{Å}^\circ\text{C}$	621 $\text{Å}^\circ\text{F}$	DSC
	327 $\text{Å}^\circ\text{C}$	621 $\text{Å}^\circ\text{F}$	
Deflection Temperature at 0.46 MPa (66 psi)	320 $\text{Å}^\circ\text{C}$	608 $\text{Å}^\circ\text{F}$	Annealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Deflection Temperature at 1.8 MPa (264 psi)	300 $\text{Å}^\circ\text{C}$	572 $\text{Å}^\circ\text{F}$	Annealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Flammability, UL94	HB	HB	
	@Thickness 3.18 mm	@Thickness 0.125 in	

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	600 V	600 V	UL 746
High Voltage Arc-Tracking Rate, HVTR	14.0 mm/min	0.551 in/min	UL 746

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	318 - 324 $\text{Å}^\circ\text{C}$	604 - 615 $\text{Å}^\circ\text{F}$	

Front Barrel Temperature Processing Properties	327 - 332 Å°C Metric	621 - 630 Å°F English	Comments
Melt Temperature	329 - 343 Å°C	624 - 649 Å°F	
Drying Temperature	120 - 135 Å°C @Time 14400 sec	248 - 275 Å°F @Time 4.00 hour	
Moisture Content	<= 0.045 %	<= 0.045 %	

Descriptive Properties	Value	Comments
Additive	Lubricant	
Availability	Africa & Middle East Asia Pacific Europe Latin America North America	
Color	Black; Natural	
Form	Pellets	
Processing Technique	Water-Heated Mold Injection Molding	
RoHS Compliance	RoHS Compliant	

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