

Solvay Specialty Polymers Amodel® AS-1133 HS Polyphthalamide (PPA), 33% Glass Fiber (Dry)

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

Material Notes:

Amodel® AS-1133 HS is a 33% glass reinforced, heat stabilized polyphthalamide (PPA) resin that provides excellent structural integrity in molded parts, even those with wall thicknesses greater than 0.125 in (3 mm). Features: Good Chemical Resistance; Good Creep Resistance; Good Dimensional Stability; Good Stiffness; Heat Stabilized; High Heat Resistance; High Strength; Low Moisture Absorption Uses: Automotive Applications; Automotive Electronics; Automotive Under the Hood; Connectors; Fuel Lines; General Purpose; Housings; Industrial Applications; Industrial Parts; Lawn and Garden Equipment; Machine/Mechanical Parts; Metal Replacement; Oil/Gas Applications; 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. Additional Properties: Transmittance - ASTM D1003 (1.60 mm): > 35 %; Transmittance - ASTM D1003 (1.60 mm): > 30 % Automotive Specifications ASTM D4000 PA121 G35 Color: BK324 Black; ASTM D4000 PA121 G35 Color: NT Natural; ASTM D4000 PPA0111 G33 GB145 KD200 KN090 PN080 YI265 Color: BK324 Black; ASTM D4000 PPA0111 G33 GB145 KD200 KN090 PN080 YI265 Color: NT Natural; ASTM D6779 PA121 G35; BOSCH N28 BN05-OX1 BN0510-GF35-3ANf01 SO Color: NT Natural; BOSCH N28 BN05-OX1 BN0510-GF35-3ASw01 SO Color: BK324 Black; DELPHI M-6071 Color: NT Natural; FORD WSK-M4D843-A2 Color: BK324 Black; FORD WSK-M4D843-A2 Color: NT Natural; ISO 1874 PA6T/6I/66, MH, 12-120, GF33 Color: BK324 Black; ISO 1874 PA6T/6I/66, MH, 12-120, GF33 Color: NT Natural; SIEMENS S219536 Color: NT Natural Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Amodel-AS-1133-HS-Polyphthalamide-PPA-33-Glass-Fiber-Dry.php

Physical Properties	Metric	English	Comments
Density	1.44 g/cc	0.0520 lb/in ³	ISO 1183
Filler Content	33 %	33 %	Glass Fiber
Water Absorption	0.21 % @Time 86400 sec	0.21 % @Time 24.0 hour	ISO 62
Linear Mold Shrinkage, Flow	0.0040 cm/cm	0.0040 in/in	
Linear Mold Shrinkage, Transverse	0.0080 cm/cm	0.0080 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	125	125	ASTM D785
Tensile Strength at Break	221 MPa	32100 psi	ASTM D638
Tensile Strength, Yield	225 MPa	32600 psi	ISO 527-2

Elongation at Break Mechanical Properties	2.5 % Metric	2.5 % English	ASTM D638 Comments
	3.0 %	3.0 %	ISO 527-2
Tensile Modulus	12.2 GPa	1770 ksi	ISO 527-2
	13.1 GPa	1900 ksi	ASTM D638
Flexural Strength	326 MPa	47300 psi	ISO 178
Flexural Yield Strength	317 MPa	46000 psi	ASTM D790
Flexural Modulus	10.3 GPa	1490 ksi	ISO 178
	10.3 GPa	1490 ksi	ASTM D790
Compressive Strength	276 MPa	40000 psi	ASTM D695
Poissons Ratio	0.41	0.41	ASTM E132
Shear Strength	101 MPa	14600 psi	ASTM D732
Izod Impact, Notched	0.850 J/cm	1.59 ft-lb/in	ASTM D256
Izod Impact, Unnotched	10.0 J/cm	18.7 ft-lb/in	ASTM D256
Izod Impact, Notched (ISO)	11.0 kJ/m ²	5.23 ft-lb/in ²	Type 1, Notch A; ISO 180
Charpy Impact Unnotched	8.20 J/cm ²	39.0 ft-lb/in ²	Type 1, Edgewise; ISO 179
Charpy Impact, Notched	1.10 J/cm ²	5.23 ft-lb/in ²	Type 1, Edgewise; ISO 179

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	14.0 Åµm/m-Å°C	7.78 Åµin/in-Å°F	2
	@Temperature 160 - 250 Å°C	@Temperature 320 - 482 Å°F	
CTE, linear, Transverse to Flow	23.0 Åµm/m-Å°C	12.8 Åµin/in-Å°F	2
	@Temperature 0.000 - 100 Å°C	@Temperature 32.0 - 212 Å°F	
CTE, linear, Transverse to Flow	59.0 Åµm/m-Å°C	32.8 Åµin/in-Å°F	TMA; ASTM E831
	@Temperature -50.0 - 50.0 Å°C	@Temperature -58.0 - 122 Å°F	
Melting Point	130 Åµm/m-Å°C	72.2 Åµin/in-Å°F	TMA; ASTM E831
	@Temperature 100 - 250 Å°C	@Temperature 212 - 482 Å°F	
Melting Point	310 Å°C	590 Å°F	ASTM D3418
	310 Å°C	590 Å°F	ISO 11357-3

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	164 - 185 Å°C	327 - 365 Å°F	Continuous Use
Deflection Temperature at 0.46 MPa (66 psi)	297 Å°C @Thickness 3.20 mm	567 Å°F @Thickness 0.126 in	Annealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	277 Å°C	531 Å°F	Annealed; Flatwise; ISO 75-2/A
	285 Å°C @Thickness 3.20 mm	545 Å°F @Thickness 0.126 in	Annealed; ASTM D648
Flammability, UL94	HB @Thickness 3.18 mm	HB @Thickness 0.125 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+16 ohm-cm	1.00e+16 ohm-cm	ASTM D257
Dielectric Constant	4.2 @Frequency 1.00e+6 Hz	4.2 @Frequency 1.00e+6 Hz	ASTM D150
	4.4 @Frequency 60.0 Hz	4.4 @Frequency 60.0 Hz	ASTM D150
Dielectric Strength	21.0 kV/mm @Thickness 3.20 mm	533 kV/in @Thickness 0.126 in	ASTM D149
Dissipation Factor	0.0050 @Frequency 60.0 Hz	0.0050 @Frequency 60.0 Hz	ASTM D150
	0.017 @Frequency 1.00e+6 Hz	0.017 @Frequency 1.00e+6 Hz	ASTM D150
Arc Resistance	140 sec	140 sec	ASTM D495
Comparative Tracking Index	550 V	550 V	UL 746

Processing Properties	Metric	English	Comments
Processing Temperature	79.4 Å°C	175 Å°F	Hopper
Rear Barrel Temperature	304 - 318 Å°C	579 - 604 Å°F	
Front Barrel Temperature	316 - 329 Å°C	601 - 624 Å°F	
Melt Temperature	321 - 343 Å°C	610 - 649 Å°F	

Mold Temperature Processing Properties	135 Å°C Metric	275 Å°F English	Comments
Drying Temperature	120 Å°C @Time 14400 sec	248 Å°F @Time 4.00 hour	
Moisture Content	<= 0.045 %	<= 0.045 %	

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

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