

Solvay Specialty Polymers Amodel® AFA-6133 V0 Z Polyphthalamide (PPA), 33% Glass Fiber (Dry)

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

Material Notes:

Amodel® AFA-6133 V0 Z is a 33% glass-fiber reinforced, flame retardant grade of polyphthalamide (PPA) resin specifically formulated for connector applications requiring compatibility with both infrared and vapor phase soldering operations typically used by the electronics industry. Features: Flame Retardant; Good Chemical Resistance; Good Dimensional Stability; Good Electrical Properties; Good Stiffness; High Flow; High Strength; Hot Water Moldability. Uses: Automotive Applications; Automotive Electronics; Bobbins; Connectors; Electrical/Electronic Applications. 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 PA104G35; GM GMW15702 Color: BK Black. Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Amodel-AFA-6133-V0-Z-Polyphthalamide-PPA-33-Glass-Fiber-Dry.php

Physical Properties	Metric	English	Comments
Density	1.68 g/cc	0.0607 lb/in ³	ISO 1183
Filler Content	33 %	33 %	Glass Fiber
Water Absorption	0.20 % @Time 86400 sec	0.20 % @Time 24.0 hour	ISO 62
Linear Mold Shrinkage, Flow	0.0030 cm/cm	0.0030 in/in	
Linear Mold Shrinkage, Transverse	0.0060 cm/cm	0.0060 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Tensile Strength	199 MPa	28900 psi	ASTM D638
Tensile Strength, Yield	63.4 MPa @Temperature 175 °C	9200 psi @Temperature 347 °F	4; ISO 527-2
	75.2 MPa @Temperature 150 °C	10900 psi @Temperature 302 °F	4; ISO 527-2
	114 MPa @Temperature 100 °C	16500 psi @Temperature 212 °F	4; ISO 527-2
	186 MPa @Temperature 23.0	27000 psi	4; ISO 527-2

Mechanical Properties	°C Metric	@Temperature 73.4 °F English	Comments
Elongation at Break	1.7 %	1.7 %	ASTM D638
	1.6 %	1.6 %	ISO 527-2
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	2.4 %	2.4 %	ISO 527-2
	@Temperature 100 °C	@Temperature 212 °F	
	4.9 %	4.9 %	ISO 527-2
	@Temperature 175 °C	@Temperature 347 °F	
	5.1 %	5.1 %	ISO 527-2
	@Temperature 150 °C	@Temperature 302 °F	
Tensile Modulus	16.1 GPa	2340 ksi	ASTM D638
	5.10 GPa	740 ksi	4; ISO 527-2
	@Temperature 175 °C	@Temperature 347 °F	
	5.93 GPa	860 ksi	4; ISO 527-2
	@Temperature 150 °C	@Temperature 302 °F	
	9.17 GPa	1330 ksi	4; ISO 527-2
	@Temperature 100 °C	@Temperature 212 °F	
	14.5 GPa	2100 ksi	4; ISO 527-2
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Strength	224 MPa	32500 psi	ASTM D790
	87.6 MPa	12700 psi	4; ISO 178
	@Temperature 175 °C	@Temperature 347 °F	
	101 MPa	14600 psi	4; ISO 178
	@Temperature 150 °C	@Temperature 302 °F	
	161 MPa	23400 psi	4; ISO 178
	@Temperature 100 °C	@Temperature 212 °F	
	259 MPa	37600 psi	4; ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Modulus	13.1 GPa	1900 ksi	ASTM D790

Mechanical Properties	4.62 GPa Metric	670 ksi English	Comments
	@Temperature 175 Â°C	@Temperature 347 Â°F	
	4.96 GPa	719 ksi	ISO 178
	@Temperature 150 Â°C	@Temperature 302 Â°F	
	8.07 GPa	1170 ksi	ISO 178
	@Temperature 100 Â°C	@Temperature 212 Â°F	
	12.6 GPa	1830 ksi	ISO 178
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	
Compressive Strength	145 MPa	21000 psi	ASTM D695
Shear Strength	80.0 MPa	11600 psi	ASTM D732
Izod Impact, Notched	0.850 J/cm	1.59 ft-lb/in	ASTM D256
Izod Impact, Unnotched	6.90 J/cm	12.9 ft-lb/in	ASTM D256
Izod Impact, Notched (ISO)	8.20 kJ/mÂ²	3.90 ft-lb/inÂ²	Type 1, Notch A; ISO 180
Izod Impact, Unnotched (ISO)	44.0 kJ/mÂ²	20.9 ft-lb/inÂ²	Type 1; ISO 180
Charpy Impact Unnotched	4.60 J/cmÂ²	21.9 ft-lb/inÂ²	Type 1, Edgewise; ISO 179
Charpy Impact, Notched	1.40 J/cmÂ²	6.66 ft-lb/inÂ²	Type 1, Edgewise; ISO 179

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	7.00 Âµm/m-Â°C	3.89 Âµin/in-Â°F	2
	@Temperature 100 - 200 Â°C	@Temperature 212 - 392 Â°F	
	17.0 Âµm/m-Â°C	9.44 Âµin/in-Â°F	2
	@Temperature 0.000 - 100 Â°C	@Temperature 32.0 - 212 Â°F	
CTE, linear, Transverse to Flow	64.0 Âµm/m-Â°C	35.6 Âµin/in-Â°F	TMA; ASTM E831
	@Temperature 0.000 - 100 Â°C	@Temperature 32.0 - 212 Â°F	
	110 Âµm/m-Â°C	61.1 Âµin/in-Â°F	TMA; ASTM E831
	@Temperature 100 - 200 Â°C	@Temperature 212 - 392 Â°F	
Melting Point	310 Â°C	590 Â°F	ASTM D3418
	310 Â°C	590 Â°F	ISO 11357-3

Thermal Properties	Metric	English	Comments
Deflection Temperature at 1.8 MPa (100 psi)	277 Â°C	531 Â°F	Annealed; ASTM D648
	282 Â°C	540 Â°F	Unannealed; Flatwise; ISO 75-2/A
Flammability, UL94	V-0	V-0	
	@Thickness 0.800 mm	@Thickness 0.0315 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	ASTM D257
Surface Resistance	1.00e+15 ohm	1.00e+15 ohm	ASTM D257
Dielectric Constant	4.1	4.1	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	4.4	4.4	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
Dielectric Strength	24.0 kV/mm	610 kV/in	ASTM D149
	@Thickness 3.20 mm	@Thickness 0.126 in	
Dissipation Factor	0.011	0.011	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	400 - 600 V	400 - 600 V	PLC 1; UL 746
Hot Wire Ignition, HWI	>= 120 sec	>= 120 sec	UL 746
High Amp Arc Ignition, HAI	>= 120 arcs	>= 120 arcs	UL 746

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	327 - 332 Â°C	621 - 630 Â°F	
Middle Barrel Temperature	316 - 324 Â°C	601 - 615 Â°F	
Front Barrel Temperature	316 - 324 Â°C	601 - 615 Â°F	
Melt Temperature	321 - 338 Â°C	610 - 640 Â°F	
Mold Temperature	65.6 - 93.3 Â°C	150 - 200 Â°F	
Drying Temperature	<= 120 Â°C	<= 248 Â°F	
	@Time 14400 sec	@Time 4.00 hour	
Moisture Content	0.030 - 0.060 %	0.030 - 0.060 %	Suggested Max

Descriptive Properties	Value	Comments
Additive	Flame Retardant	
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	Latin America	
	North America	
Color	Black	
Form	Pellets	
Part Marking Code	>PA6T/66-GF33<	ISO 11469
Processing Technique	Water-Heated Mold Injection Molding	
Resin ID	PA6T/66 GF33 FR(17)	ISO 1043
RoHS Compliance	RoHS Compliant	

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