

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

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. - Black: AS-4133 L BK 324 - Natural: AS-4133 L NTData is presented for dry polymer unless noted as 'conditioned'. 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-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.45 g/cc	1.45 g/cc	ASTM D792
Density	1.45 g/cc	0.0524 lb/in ³	ISO 1183/A
Filler Content	33 %	33 %	Glass Fiber Reinforcement
Water Absorption	0.29 % @Temperature 23.0 °C, Time 86400 sec	0.29 % @Temperature 73.4 °F, Time 24.0 hour	0.29% typical, maximum 1.07%; ASTM D792
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	172 MPa	24900 psi	Conditioned; ASTM D638
	200 MPa	29000 psi	ASTM D638
Elongation at Break	2.2 %	2.2 %	Conditioned; ASTM D638
	2.5 %	2.5 %	ASTM D638
Tensile Modulus	11.7 GPa	1700 ksi	Conditioned; ASTM D638
	11.7 GPa	1700 ksi	ASTM D638
Flexural Yield Strength	241 MPa	35000 psi	Conditioned; ASTM D790
	290 MPa	42100 psi	ASTM D790
Flexural Modulus	11.0 GPa	1600 ksi	Conditioned; ASTM D790
	11.0 GPa	1600 ksi	ASTM D790
Compressive Strength	172 MPa	24900 psi	Conditioned; ASTM D695

Mechanical Properties	Metric ^{Pa}	English ^{psi}	Comments
Poissons Ratio	0.41	0.41	ASTM E132
Shear Modulus	4.15 GPa	602 ksi	Calculated
Shear Strength	75.8 MPa	11000 psi	Conditioned; ASTM D732
	90.0 MPa	13100 psi	ASTM D732
Izod Impact, Notched	0.690 J/cm	1.29 ft-lb/in	Conditioned; ASTM D256
	0.800 J/cm	1.50 ft-lb/in	ASTM D256
	9.60 J/cm	18.0 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	14.0 $\mu\text{m}/\text{m}\cdot\text{C}^\circ$	7.78 $\mu\text{in}/\text{in}\cdot\text{F}^\circ$	TMA; ASTM E831
	@Temperature 149 - 249 $^\circ\text{C}$	@Temperature 300 - 480 $^\circ\text{F}$	
	22.0 $\mu\text{m}/\text{m}\cdot\text{C}^\circ$	12.2 $\mu\text{in}/\text{in}\cdot\text{F}^\circ$	TMA; ASTM E831
	@Temperature 0.000 - 90.0 $^\circ\text{C}$	@Temperature 32.0 - 194 $^\circ\text{F}$	
CTE, linear, Transverse to Flow	59.0 $\mu\text{m}/\text{m}\cdot\text{C}^\circ$	32.8 $\mu\text{in}/\text{in}\cdot\text{F}^\circ$	ASTM E831
	@Temperature 0.000 - 90.0 $^\circ\text{C}$	@Temperature 32.0 - 194 $^\circ\text{F}$	
	120 $\mu\text{m}/\text{m}\cdot\text{C}^\circ$	66.7 $\mu\text{in}/\text{in}\cdot\text{F}^\circ$	ASTM E831
	@Temperature 149 - 249 $^\circ\text{C}$	@Temperature 300 - 480 $^\circ\text{F}$	
Melting Point	327 $^\circ\text{C}$	621 $^\circ\text{F}$	DSC
	327 $^\circ\text{C}$	621 $^\circ\text{F}$	
Deflection Temperature at 0.46 MPa (66 psi)	320 $^\circ\text{C}$	608 $^\circ\text{F}$	Annealed; ASTM D648
	@Thickness 3.18 mm	@Thickness 0.125 in	
Deflection Temperature at 1.8 MPa (264 psi)	300 $^\circ\text{C}$	572 $^\circ\text{F}$	Annealed; ASTM D648
	@Thickness 3.18 mm	@Thickness 0.125 in	
Flammability, UL94	HB	HB	UL 94
	@Thickness 3.18 mm	@Thickness 0.125 in	

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	600 V	600 V	Conditioned; UL 746

Electrical Properties	Metric	English	Comments
High Voltage Arc-Tracking Rate, HVTR	14.0 mm/min	0.551 in/min	UL 746
	18.0 mm/min	0.709 in/min	Conditioned; 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	
Drying Temperature	120 - 135 °C	248 - 275 °F	
Dry Time	4.00 hour	4.00 hour	
Moisture Content	0.045 %	0.045 %	

Descriptive Properties	Value	Comments
Additive	Lubricant	
Appearance	Black	
	Natural Color	
Automotive Specifications	ASTM D6779 PA105G35	
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	
	High Strength	
	Hot Water Moldability	

Descriptive Properties	Value	Comments
	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	
	Cell Phones	
	Electrical/Electronic Applications	
	General Purpose	
	Housings	
	Industrial Applications	
	Machine/Mechanical Parts	
	Metal Replacement	
	Power/Other Tools	
	Thick-walled Parts	
	Valves/Valve Parts	

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