Solvay Specialty Polymers Amodel® AS-1945 HS Polyphthalamide (PPA) (Unverified Data**)

Category : Polymer , Thermoplastic , Polyphthalamide (PPA) , Polyphthalamide (PPA), 50% Glass Fiber Reinforced

Material Notes:

Amodel AS-1945 HS is a 45% glass reinforced grade of polyphthalamide (PPA) resin developed specifically for improved performance in a 50/50 ethylene glycol and water environment. This material exceeds the performance required by the automotive industry for polymeric materials exposed to antifreeze at 226°F (108°C), even when tested at 275°F (135°C). Potential applications include a variety of automotive components such as thermostat housings, heater core endcaps, heater hose connectors, and water inlets, outlets and valves. - Black: AS-1945 HS BK 324 - Natural: AS-1945 HS NTInformation provided by Solvay Specialty Polymers.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Amodel-AS-1945-HS-Polyphthalamide-PPA-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.57 g/cc	0.0567 lb/in³	ISO 1183/A
Filler Content	45 %	45 %	Glass Fiber Reinforcement
Linear Mold Shrinkage, Flow	0.0010 cm/cm	0.0010 in/in	ISO 294-4
	0.0020 cm/cm	0.0020 in/in	Type D2; ASTM D955
Linear Mold Shrinkage, Transverse	0.0060 cm/cm	0.0060 in/in	Type D2; ASTM D955
	0.0060 cm/cm	0.0060 in/in	ISO 294-4

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	107 MPa	15500 psi	After Immersion in 50/50 Glycol/Water Mixture for 1,000 hours at 275°F (135°C); ASTM D638
	244 MPa	35400 psi	ISO 527-2
	252 MPa	36500 psi	ASTM D638
Elongation at Break	2.5 %	2.5 %	ASTM D638
Tensile Modulus	10.3 GPa	1490 ksi	After Immersion in 50/50 Glycol/Water Mixture for 1,000 hours at 275°F (135°C); ASTM D638
	15.1 GPa	2190 ksi	ISO 527-2
	15.2 GPa	2200 ksi	ASTM D638
Flexural Strength	335 MPa	48600 psi	ISO 178
Flexural Yield Strength	359 MPa	52100 psi	ASTM D790

Mechanical Properties	Metric	English	Comments
Flexural Modulus	12.6 GPa	1830 ksi	ISO 178
	13.8 GPa	2000 ksi	ASTM D790
Izod Impact, Notched	0.690 J/cm	1.29 ft-lb/in	After Immersion in 50/50 Glycol/Water Mixture for 1,000 hours at 275°F (135°C); ASTM D256
	1.20 J/cm	2.25 ft-lb/in	ASTM D256
Izod Impact, Notched (ISO)	11.0 kJ/m²	5.23 ft-lb/in²	ISO 180/1A
Charpy Impact, Notched	1.30 J/cm²	6.19 ft-lb/in²	ISO 179/1eA

Thermal Properties	Metric	English	Comments
Melting Point	312 °C	594 °F	ISO 11357-3
Deflection Temperature at 1.8 MPa (264 psi)	282 °C	540 °F	Unannealed; ASTM D648
	282 °C	540 °F	Unannealed; ISO 75-2/Af

Processing Properties	Metric	English	Comments
Feed Temperature	79.4 °C	175 °F	Hopper Temperature
Rear Barrel Temperature	304 - 318 °C	579 - 604 °F	
Front Barrel Temperature	316 - 329 °C	601 - 624 °F	
Melt Temperature	321 - 343 °C	610 - 649 °F	
Mold Temperature	135 °C	275 °F	
Drying Temperature	121 °C	250 °F	
Dry Time	4.00 hour	4.00 hour	
Moisture Content	0.10 %	0.10 %	

Descriptive Properties	Value	Comments
Additive	Heat Stabilizer	
Appearance	Black	
	Natural Color	
Automotive Specifications	ASTM D6779 PA121G45	
	FORD WSS-M4D997-A Color: BK-324 Black	
	GM GMP.PPA.018	

Descriptive Properties	Value	Comments
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	North America	
	South America	
Features	Antifreeze Resistant	
	Glycol Resistant	
	Good Chemical Resistance	
	Good Creep Resistance	
	Good Dimensional Stability	
	Good Stiffness	
	Heat Stabilized	
	High Heat Resistance	
	High Strength	
Forms	Pellets	
Generic	PPA	
Processing Method	Injection Molding	
RoHS Compliance	RoHS Compliant	
Uses	Automotive Applications	
	Automotive Under the Hood	
	Housings	
	Industrial Applications	
	Industrial Parts	
	Machine/Mechanical Parts	
	Metal Replacement	
	Power/Other Tools	
	Thick-walled Parts	

Descriptive Properties	Value	Comments

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