

Solvay Specialty Polymers Amodel® AS-1145 HS Polyphthalamide (PPA), 45% Glass Fiber (Dry)

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

Material Notes:

Amodel® AS-1145 HS is a 45% glass reinforced heat stabilized polyphthalamide (PPA) resin that provides excellent structural integrity in molded parts, even those with wall thicknesses greater than 0.125 inch (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; 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 D4000 PA121 G45 Color: BK324 Black; ASTM D4000 PA121 G45 Color: NT Natural; ASTM D5336 PPA0120 G45 A06637 Color: BK324 Black; ASTM D6779 PA121G45; BOSCH N28 BN05-OX1 BN0510-GF45-3ANf10SO Color: NT Natural; BOSCH N28 BN05-OX1 BN0510-GF45-3ASw01SO Color: BK324 Black; DELPHI DCM4889 Color: BK324 Black; DELPHI DCM4889 Color: NT Natural; DELPHI M-6073 Color: BK324 Black; FORD WSK-M4D861-A2 Color: BK324 Black; FORD WSK-M4D861-A2 Color: NT Natural; ISO 1874 PA6T/6I/66, MH, 12-160, GF45 Color: BK324 Black; ISO 1874 PA6T/6I/66, MH, 12-160, GF45 Color: NT Natural; VALEO VMS-8108 Color: BK324 Black. Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Amodel-AS-1145-HS-Polyphthalamide-PPA-45-Glass-Fiber-Dry.php

Physical Properties	Metric	English	Comments
Density	1.56 g/cc	0.0564 lb/in ³	ISO 1183
Filler Content	45 %	45 %	Glass Fiber
Water Absorption	0.12 % @Time 86400 sec	0.12 % @Time 24.0 hour	ISO 62
Linear Mold Shrinkage, Flow	0.0020 cm/cm	0.0020 in/in	
Linear Mold Shrinkage, Transverse	0.0060 cm/cm	0.0060 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	125	125	ASTM D785
Tensile Strength at Break	259 MPa	37600 psi	ASTM D638
	263 MPa	38100 psi	ISO 527-2
Elongation at Break	2.6 %	2.6 %	ASTM D638

Mechanical Properties	Metric	English	Comments
Tensile Modulus	16.0 GPa	2320 ksi	ISO 527-2
	17.2 GPa	2490 ksi	ASTM D638
Flexural Strength	376 MPa	54500 psi	ISO 178
Flexural Yield Strength	363 MPa	52600 psi	ASTM D790
Flexural Modulus	13.8 GPa	2000 ksi	ASTM D790
	14.8 GPa	2150 ksi	ISO 178
Compressive Strength	314 MPa	45500 psi	ASTM D695
Poissons Ratio	0.41	0.41	ASTM E132
Shear Strength	108 MPa	15700 psi	ASTM D732
Izod Impact, Notched	1.20 J/cm	2.25 ft-lb/in	ASTM D256
Izod Impact, Unnotched	13.0 J/cm	24.4 ft-lb/in	ASTM D256
Izod Impact, Notched (ISO)	14.0 kJ/m ²	6.66 ft-lb/in ²	Type 1, Notch A; ISO 180
Charpy Impact, Notched	1.20 J/cm ²	5.71 ft-lb/in ²	Type 1, Edgewise; ISO 179

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	11.0 Åµm/m-Å°C	6.11 Åµin/in-Å°F	2
	@Temperature 160 - 250 Å°C	@Temperature 320 - 482 Å°F	
	14.0 Åµm/m-Å°C	7.78 Åµin/in-Å°F	2
	@Temperature 0.000 - 100 Å°C	@Temperature 32.0 - 212 Å°F	
CTE, linear, Transverse to Flow	50.0 Åµm/m-Å°C	27.8 Åµin/in-Å°F	TMA; ASTM E831
	@Temperature 0.000 - 100 Å°C	@Temperature 32.0 - 212 Å°F	
	100 Åµm/m-Å°C	55.6 Åµin/in-Å°F	TMA; ASTM E831
	@Temperature 100 - 250 Å°C	@Temperature 212 - 482 Å°F	
Melting Point	312 Å°C	594 Å°F	ASTM D3418
	312 Å°C	594 Å°F	ISO 11357-3
Maximum Service Temperature, Air	165 - 185 Å°C	329 - 365 Å°F	Continuous Use
	301 Å°C	574 Å°F	

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (69 psi)			Annealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	279 Â°C	534 Â°F	Unannealed; ISO 75-2/A
	287 Â°C	549 Â°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
Volume Resistivity	1.00e+16 ohm-cm	1.00e+16 ohm-cm	ASTM D257
Dielectric Constant	4.4	4.4	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	4.6	4.6	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
Dielectric Strength	22.0 kV/mm	559 kV/in	ASTM D149
Dissipation Factor	0.0050	0.0050	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
	0.016	0.016	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Arc Resistance	145 sec	145 sec	ASTM D495
Comparative Tracking Index	550 V	550 V	UL 746

Processing Properties	Metric	English	Comments
Processing Temperature	79.4 Â°C	175 Â°F	Hopper
Rear Barrel Temperature	304 - 318 Â°C	579 - 604 Â°F	
Front Barrel Temperature	316 - 329 Â°C	601 - 624 Â°F	
Melt Temperature	321 - 343 Â°C	610 - 649 Â°F	
Mold Temperature	135 Â°C	275 Â°F	
Drying Temperature	121 Â°C	250 Â°F	
	@Time 14400 sec	@Time 4.00 hour	

Moisture Content	<= 0.10 %	<= 0.10 %	
Processing Properties	Metric	English	Comments

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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