

Solvay Specialty Polymers Amodel® AS-1566 HS Polyphthalamide (PPA), 65% GlassMineral (Dry)

Category : Polymer , Thermoplastic , Polyphthalamide (PPA)

Material Notes:

Amodel® AS-1566 HS resin is a 65% glass and mineral reinforced polyphthalamide (PPA) resin that exhibits a high deflection temperature and high flexural modulus. This grade was designed specifically to be cost effective for most applications requiring high stiffness, good dimensional stability and chemical resistance. Features: Good Chemical Resistance; Good Creep Resistance; Good Dimensional Stability; Good Toughness; Heat Stabilized; High Heat Resistance; High Strength; Low CLTE; Ultra High Stiffness Uses: Automotive Applications; Automotive Electronics; Automotive Under the Hood; 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 D6779 PA122R65 Color: BK324 Black; ASTM D6779 PA122R65 Color: BK545 Black; ASTM D6779 PA122R65 Color: NT Natural; BMW GS 93016; DELPHI DCM4899 Color: BK324 Black; DELPHI DCM4899 Color: NT Natural; DELPHI M-2987 Color: BK324 Black; DELPHI M-2987 Color: NT Natural; DELPHI M-53292; DELPHI M-53292 Color: BK545 Black; GM GM7001M PA6T/6I/66 A3 A22 A42 A64 BJ721 DE1830 KS1750 Color: NT Natural; GM GMP.PPA.003 Color: Black; GM GMP.PPA.003 Color: Natural; GM GMW16358P-PPA-GF43MD22 Color: BK324 Black; GM GMW16358P-PPA-GF43MD22 Color: NT Natural; ISO 1874 PA6T/6I/66, MH, 11-120, (GF+MD)64 Color: BK324 Black; ISO 1874 PA6T/6I/66, MH, 11-120, (GF+MD)64 Color: NT Natural; TRW SP-13161601 Color: BK324 Black; TRW SP-13161601 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-1566-HS-Polyphthalamide-PPA-65-GlassMineral-Dry.php

Physical Properties	Metric	English	Comments
Density	1.84 g/cc	0.0665 lb/in ³	ISO 1183
Filler Content	65 %	65 %	GlassMineral
Water Absorption	0.10 % @Time 86400 sec	0.10 % @Time 24.0 hour	ISO 62
Linear Mold Shrinkage, Flow	0.0030 cm/cm	0.0030 in/in	
Linear Mold Shrinkage, Transverse	0.0050 cm/cm	0.0050 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	207 MPa	30000 psi	ASTM D638
	43.4 MPa @Temperature 175 °C	6290 psi @Temperature 347 °F	ISO 527-2

Mechanical Properties	Metric	English	Comments
	@Temperature 150 Å°C	@Temperature 302 Å°F	ISO 527-2
	127 MPa	18400 psi	ISO 527-2
	@Temperature 100 Å°C	@Temperature 212 Å°F	
	200 MPa	29000 psi	ISO 527-2
	@Temperature 23.0 Å°C	@Temperature 73.4 Å°F	
Elongation at Break	1.7 %	1.7 %	ASTM D638
	1.4 %	1.4 %	ISO 527-2
	@Temperature 23.0 Å°C	@Temperature 73.4 Å°F	
	1.5 %	1.5 %	ISO 527-2
	@Temperature 100 Å°C	@Temperature 212 Å°F	
	3.1 %	3.1 %	ISO 527-2
	@Temperature 175 Å°C	@Temperature 347 Å°F	
	3.4 %	3.4 %	ISO 527-2
	@Temperature 150 Å°C	@Temperature 302 Å°F	
Tensile Modulus	20.0 GPa	2900 ksi	ASTM D638
	6.21 GPa	901 ksi	4; ISO 527-2
	@Temperature 175 Å°C	@Temperature 347 Å°F	
	7.31 GPa	1060 ksi	4; ISO 527-2
	@Temperature 150 Å°C	@Temperature 302 Å°F	
	17.2 GPa	2490 ksi	4; ISO 527-2
	@Temperature 100 Å°C	@Temperature 212 Å°F	
	22.5 GPa	3260 ksi	4; ISO 527-2
	@Temperature 23.0 Å°C	@Temperature 73.4 Å°F	
Flexural Strength	75.8 MPa	11000 psi	4; ISO 178
	@Temperature 175 Å°C	@Temperature 347 Å°F	
	95.8 MPa	13900 psi	4; ISO 178
	@Temperature 150 Å°C	@Temperature 302 Å°F	
	205 MPa	29700 psi	

Mechanical Properties	Metric @ Temperature 100 Å°C	English @ Temperature 212 Å°F	4; ISO 178 Comments
	284 MPa @ Temperature 23.0 Å°C	41200 psi @ Temperature 73.4 Å°F	4; ISO 178
Flexural Yield Strength	290 MPa	42100 psi	ASTM D790
Flexural Modulus	18.6 GPa	2700 ksi	ASTM D790
	6.41 GPa @ Temperature 175 Å°C	930 ksi @ Temperature 347 Å°F	ISO 178
	7.31 GPa @ Temperature 150 Å°C	1060 ksi @ Temperature 302 Å°F	ISO 178
	16.8 GPa @ Temperature 100 Å°C	2440 ksi @ Temperature 212 Å°F	ISO 178
	20.5 GPa @ Temperature 23.0 Å°C	2970 ksi @ Temperature 73.4 Å°F	ISO 178
Shear Strength	80.0 MPa	11600 psi	ASTM D732
Izod Impact, Notched	0.640 J/cm	1.20 ft-lb/in	ASTM D256
Izod Impact, Unnotched	5.90 J/cm	11.1 ft-lb/in	ASTM D256
Izod Impact, Notched (ISO)	6.50 kJ/mÅ²	3.09 ft-lb/inÅ²	Type 1, Notch A; ISO 180
Izod Impact, Unnotched (ISO)	44.0 kJ/mÅ²	20.9 ft-lb/inÅ²	Type 1; ISO 180
Charpy Impact Unnotched	3.40 J/cmÅ²	16.2 ft-lb/inÅ²	Type 1, Edgewise; ISO 179
Charpy Impact, Notched	0.610 J/cmÅ²	2.90 ft-lb/inÅ²	Type 1, Edgewise; ISO 179

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	17.0 Åµm/m-Å°C	9.44 Åµin/in-Å°F	2
	@ Temperature 100 - 200 Å°C	@ Temperature 212 - 392 Å°F	
	17.0 Åµm/m-Å°C	9.44 Åµin/in-Å°F	2
	@ Temperature 0.000 - 100 Å°C	@ Temperature 32.0 - 212 Å°F	
CTE, linear, Transverse to Flow	40.0 Åµm/m-Å°C	22.2 Åµin/in-Å°F	TMA; ASTM E831
	@ Temperature 0.000 - 100 Å°C	@ Temperature 32.0 - 212 Å°F	

Thermal Properties	Metric $\mu\text{m}/\text{m}-\text{Å}^{\circ}\text{C}$	English $\text{in}/\text{in}-\text{Å}^{\circ}\text{F}$	Comments
	@Temperature 100 - 200 $\text{Å}^{\circ}\text{C}$	@Temperature 212 - 392 $\text{Å}^{\circ}\text{F}$	TMA; ASTM E831
Melting Point	311 $\text{Å}^{\circ}\text{C}$	592 $\text{Å}^{\circ}\text{F}$	ASTM D3418
	311 $\text{Å}^{\circ}\text{C}$	592 $\text{Å}^{\circ}\text{F}$	ISO 11357-3
Deflection Temperature at 1.8 MPa (264 psi)	278 $\text{Å}^{\circ}\text{C}$	532 $\text{Å}^{\circ}\text{F}$	Annealed; ASTM D648
	280 $\text{Å}^{\circ}\text{C}$	536 $\text{Å}^{\circ}\text{F}$	Unannealed; ISO 75-2/A

Processing Properties	Metric	English	Comments
Processing Temperature	79.4 $\text{Å}^{\circ}\text{C}$	175 $\text{Å}^{\circ}\text{F}$	Hopper
Rear Barrel Temperature	307 - 329 $\text{Å}^{\circ}\text{C}$	585 - 624 $\text{Å}^{\circ}\text{F}$	
Front Barrel Temperature	307 - 329 $\text{Å}^{\circ}\text{C}$	585 - 624 $\text{Å}^{\circ}\text{F}$	
Melt Temperature	321 - 343 $\text{Å}^{\circ}\text{C}$	610 - 649 $\text{Å}^{\circ}\text{F}$	
Mold Temperature	65.6 - 166 $\text{Å}^{\circ}\text{C}$	150 - 331 $\text{Å}^{\circ}\text{F}$	
Drying Temperature	120 $\text{Å}^{\circ}\text{C}$	248 $\text{Å}^{\circ}\text{F}$	
	@Time 14400 sec	@Time 4.00 hour	
Moisture Content	$\leq 0.045\%$	$\leq 0.045\%$	

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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