

Solvay Specialty Polymers Amodel® AT-6115 HS Polyphthalamide (PPA), 15% Glass Fiber (Dry)

Category : Polymer , Thermoplastic , Polyphthalamide (PPA) , Polyphthalamide (PPA), 20% Glass Fiber Reinforced

Material Notes:

Amodel® AT-6115 HS is a 15% glass-fiber reinforced, toughened grade of polyphthalamide (PPA) resin designed to possess more elongation than other 15% glass-fiber reinforced grades of Amodel resin. This grade was developed for automotive snap-fit electronic connectors. It offers high flow and short molding cycles. Features: Fast Molding Cycle; Good Mold Release; Heat Stabilized; High Elongation; High Flow; Impact Modified; Lubricated Uses: Automotive Applications; Automotive Electronics; Automotive Under the Hood; Connectors; General Purpose; Housings; Industrial Applications; Industrial Parts; Machine/Mechanical Parts; Metal Replacement; 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 PPA0123 G15 GB121 KD100 KN042 PN068 YI242; ASTM D6779 PA103G15; DELPHI M-4628 Color: BK324 Black; DELPHI M-4628 Color: NT Natural; FORD WSS-M4D943-A2 Color: BK324 Black; FORD WSS-M4D943-A2 Color: NT Natural; GM GMP.PPA.020 Color: BK-324 Black; GM GMP.PPA.020 Color: NT Natural; GM GMW16363P-PPA-GF15 Color: Black; GM GMW16363P-PPA-GF15 Color: Natural; ISO 1874 PA6T/66-HI, MH, 11-050, GF15 Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Amodel-AT-6115-HS-Polyphthalamide-PPA-15-Glass-Fiber-Dry.php

Physical Properties	Metric	English	Comments
Density	1.22 g/cc	0.0441 lb/in ³	ISO 1183
Filler Content	15 %	15 %	Glass Fiber
Water Absorption	0.20 % @Time 86400 sec	0.20 % @Time 24.0 hour	ISO 62
Linear Mold Shrinkage, Flow	0.010 cm/cm	0.010 in/in	
Linear Mold Shrinkage, Transverse	0.011 cm/cm	0.011 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	68.3 MPa @Temperature 100 Å°C	9910 psi @Temperature 212 Å°F	2; ISO 527-2
	126 MPa @Temperature 23.0 Å°C	18300 psi @Temperature 73.4 Å°F	2; ISO 527-2
Tensile Strength	122 MPa	17700 psi	ASTM D638

Elongation at Break Mechanical Properties	3.4 % Metric	3.4 % English	ASTM D638 Comments
	4.1 % @Temperature 23.0 Â°C	4.1 % @Temperature 73.4 Â°F	ISO 527-2
	7.7 % @Temperature 100 Â°C	7.7 % @Temperature 212 Â°F	ISO 527-2
Tensile Modulus	5.38 GPa	780 ksi	ASTM D638
	3.10 GPa @Temperature 100 Â°C	450 ksi @Temperature 212 Â°F	2; ISO 527-2
	5.20 GPa @Temperature 23.0 Â°C	754 ksi @Temperature 73.4 Â°F	2; ISO 527-2
Flexural Strength	165 MPa	23900 psi	ASTM D790
	66.9 MPa @Temperature 100 Â°C	9700 psi @Temperature 212 Â°F	2; ISO 178
	170 MPa @Temperature 23.0 Â°C	24700 psi @Temperature 73.4 Â°F	2; ISO 178
Flexural Modulus	4.41 GPa	640 ksi	ASTM D790
	2.34 GPa @Temperature 100 Â°C	339 ksi @Temperature 212 Â°F	ISO 178
	4.27 GPa @Temperature 23.0 Â°C	619 ksi @Temperature 73.4 Â°F	ISO 178
Compressive Strength	100 MPa	14500 psi	ASTM D695
Shear Strength	56.5 MPa	8190 psi	ASTM D732
Izod Impact, Notched	0.910 J/cm	1.70 ft-lb/in	ASTM D256
Izod Impact, Unnotched	8.50 J/cm	15.9 ft-lb/in	ASTM D256
Izod Impact, Notched (ISO)	12.0 kJ/mÂ²	5.71 ft-lb/inÂ²	Type 1, Notch A; ISO 180
Izod Impact, Unnotched (ISO)	55.0 kJ/mÂ²	26.2 ft-lb/inÂ²	Type 1; ISO 180
Charpy Impact Unnotched	7.60 J/cmÂ²	36.2 ft-lb/inÂ²	Type 1, Edgewise; ISO 179
Charpy Impact, Notched	1.10 J/cmÂ²	5.23 ft-lb/inÂ²	Type 1, Edgewise; ISO 179

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	22.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	12.2 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	2
	@Temperature 0.000 - 100 $\text{Å}^\circ\text{C}$	@Temperature 32.0 - 212 $\text{Å}^\circ\text{F}$	
	30.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	16.7 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	2
	@Temperature 100 - 200 $\text{Å}^\circ\text{C}$	@Temperature 212 - 392 $\text{Å}^\circ\text{F}$	
CTE, linear, Transverse to Flow	90.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	50.0 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	TMA; ASTM E831
	@Temperature 0.000 - 100 $\text{Å}^\circ\text{C}$	@Temperature 32.0 - 212 $\text{Å}^\circ\text{F}$	
	120 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	66.7 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	TMA; ASTM E831
	@Temperature 100 - 200 $\text{Å}^\circ\text{C}$	@Temperature 212 - 392 $\text{Å}^\circ\text{F}$	
Melting Point	305 $\text{Å}^\circ\text{C}$	581 $\text{Å}^\circ\text{F}$	ASTM D3418
	305 $\text{Å}^\circ\text{C}$	581 $\text{Å}^\circ\text{F}$	ISO 11357-3
Deflection Temperature at 0.46 MPa (66 psi)	298 $\text{Å}^\circ\text{C}$	568 $\text{Å}^\circ\text{F}$	HDT B; Unannealed; ISO 75-2/B
Deflection Temperature at 1.8 MPa (264 psi)	251 $\text{Å}^\circ\text{C}$	484 $\text{Å}^\circ\text{F}$	Unannealed; ISO 75-2/A
	260 $\text{Å}^\circ\text{C}$	500 $\text{Å}^\circ\text{F}$	Annealed; ASTM D648

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	316 - 324 $\text{Å}^\circ\text{C}$	601 - 615 $\text{Å}^\circ\text{F}$	
Front Barrel Temperature	327 - 332 $\text{Å}^\circ\text{C}$	621 - 630 $\text{Å}^\circ\text{F}$	
Melt Temperature	321 - 335 $\text{Å}^\circ\text{C}$	610 - 635 $\text{Å}^\circ\text{F}$	
Mold Temperature	65.6 - 93.3 $\text{Å}^\circ\text{C}$	150 - 200 $\text{Å}^\circ\text{F}$	
Drying Temperature	110 $\text{Å}^\circ\text{C}$	230 $\text{Å}^\circ\text{F}$	
	@Time 14400 sec	@Time 4.00 hour	
Moisture Content	$\leq 0.045\%$	$\leq 0.045\%$	

Descriptive Properties	Value	Comments
Additive	Heat Stabilizer	
	Impact Modifier	
	Lubricant	

Descriptive Properties	Value ^{release}	Comments
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	Latin America	
	North America	
Color	Black; Natural	
Form	Pellets	
Processing Technique	Water-Heated Mold Injection Molding	
RoHS Compliance	RoHS Compliant	

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