

Solvay Specialty Polymers Amodel® A-4122 NL WH 905 Polyphthalamide (PPA), 22% Glass Fiber

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

Material Notes:

Amodel® A-4122 NL resin is a 22% glass reinforced, high-reflectivity white grade of polyphthalamide (PPA), designed to provide high crystallinity when molded in water-cooled molds. This material exhibits high heat resistance, high strength and stiffness over a broad temperature range. It also offers low moisture absorption, excellent chemical resistance and excellent electrical properties. Its rapid crystallization rate and high flow can result in short cycles and therefore high molding productivity and lower part cost. Features: Fast Molding Cycle; Good Chemical Resistance; Good Color Stability; High Reflectivity; High Stiffness; Low Moisture Absorption. Uses: Automotive Applications; Automotive Electronics; Automotive Under the Hood; Electrical/Electronic Applications. Injection Molding Notes: A general purpose screw is recommended, with minimum back pressure. Additional Properties: Optical Reflectivity - ASTM E1331 90 % Automotive Specifications ASTM D6779 PA1061. Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Amodel-A-4122-NL-WH-905-Polyphthalamide-PPA-22-Glass-Fiber.php

Physical Properties	Metric	English	Comments
Density	1.48 g/cc	0.0535 lb/in ³	ISO 1183
Filler Content	22 %	22 %	Glass Fiber
Water Absorption	0.24 % @Time 86400 sec	0.24 % @Time 24.0 hour	ISO 62
Linear Mold Shrinkage, Flow	0.0040 cm/cm	0.0040 in/in	
Linear Mold Shrinkage, Transverse	0.0060 cm/cm	0.0060 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	124	124	ASTM D785
Tensile Strength at Break	123 MPa	17800 psi	ASTM D638
Elongation at Break	1.6 %	1.6 %	ASTM D638
Tensile Modulus	9.17 GPa	1330 ksi	ASTM D638
Flexural Yield Strength	171 MPa	24800 psi	ASTM D790
Flexural Modulus	8.00 GPa	1160 ksi	ASTM D790
Izod Impact, Notched	0.270 J/cm	0.506 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	11.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	6.11 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	
	@Temperature 150 - 250 $\text{Å}^\circ\text{C}$	@Temperature 302 - 482 $\text{Å}^\circ\text{F}$	
	23.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	12.8 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	2
	@Temperature 0.000 - 100 $\text{Å}^\circ\text{C}$	@Temperature 32.0 - 212 $\text{Å}^\circ\text{F}$	
CTE, linear, Transverse to Flow	86.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	47.8 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	TMA; ASTM E831
	@Temperature 0.000 - 100 $\text{Å}^\circ\text{C}$	@Temperature 32.0 - 212 $\text{Å}^\circ\text{F}$	
	130 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	72.2 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	TMA; ASTM E831
	@Temperature 100 - 250 $\text{Å}^\circ\text{C}$	@Temperature 212 - 482 $\text{Å}^\circ\text{F}$	
Melting Point	324 $\text{Å}^\circ\text{C}$	615 $\text{Å}^\circ\text{F}$	ASTM D3418
Deflection Temperature at 0.46 MPa (66 psi)	313 $\text{Å}^\circ\text{C}$	595 $\text{Å}^\circ\text{F}$	Unannealed; ASTM D648

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	318 - 324 $\text{Å}^\circ\text{C}$	604 - 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	329 - 343 $\text{Å}^\circ\text{C}$	624 - 649 $\text{Å}^\circ\text{F}$	
Mold Temperature	65.6 - 93.3 $\text{Å}^\circ\text{C}$	150 - 200 $\text{Å}^\circ\text{F}$	
Drying Temperature	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
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	Latin America	
	North America	
Color	White	
Form	Pellets	

Processing Technique Descriptive Properties	Injection Molding Value	Comments
RoHS Compliance	RoHS Compliant	

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