Amodel® A-4122 NL WH 905

polyphthalamide

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.

- White: A-4122 NL WH 905

General		
Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Glass Fiber, 22% Filler by Weight	
Features	• Chemical Resistant • Fast Molding Cycle • Good Color Stability	• High Reflectivity • High Stiffness • Low Moisture Absorption
Uses	• Automotive Applications • Automotive Electronics	• Automotive Under the Hood • Electrical/Electronic Applications
RoHS Compliance	• RoHS Compliant	
Automotive Specifications	• ASTM D6779 PA1061	
Appearance	• White	
Forms	• Pellets	
Processing Method	• Injection Molding	

Physical	Typical Value	Unit	Test method
Density	1.48	g/cm³	ISO 1183/A
Molding Shrinkage			ASTM D955
Flow	0.40	%	
Across Flow	0.60	%	
Water Absorption (24 hr)	0.24	%	ASTM D570

Mechanical	Typical Value	Unit	Test method
Tensile Modulus	9170	MPa	ASTM D638
Tensile Strength (Break)	123	MPa	ASTM D638
Tensile Elongation (Break)	1.6	%	ASTM D638
Flexural Modulus	8000	MPa	ASTM D790
Flexural Strength (Yield)	171	MPa	ASTM D790

Impact	Typical Value	Unit	Test method
Notched Izod Impact	27	J/m	ASTM D256

Hardness	Typical Value	Unit	Test method
Rockwell Hardness (R-Scale)	124		ASTM D785

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Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	313	°C	
Peak Melting Temperature	324	°C	ASTM D3418
CLTE			ASTM E831
Flow : 0 to 100°C	2.3E-5	cm/cm/°C	
Flow : 150 to 250°C	1.1E-5	cm/cm/°C	
Transverse : 0 to 100°C	8.6E-5	cm/cm/°C	
Transverse : 150 to 250°C	1.3E-4	cm/cm/°C	

Additional Information	Typical Value	Unit	Test method
Optical Reflectivity	90	%	ASTM E1331

Injection	Typical Value	Unit
Drying Temperature	120	°C
Drying Time	4.0	hr
Suggested Max Moisture	0.030 to 0.060	%
Rear Temperature	318 to 324	°C
Front Temperature	327 to 332	°C
Processing (Melt) Temp	329 to 343	°C
Mold Temperature	66 to 93	°C

Injection Notes

A general purpose screw is recommended, with minimum back pressure.

Injection Pressure: 3 to 4 in/sec

Storage:

- 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 following the recommendations found in this datasheet and/or in the Amodel® processing guide.

Notes

Typical properties: these are not to be construed as specifications.

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