Amodel® A-4122 HR WH 117

polyphthalamide

Amodel® A-4122 HR resin is a 22% glass reinforced 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, 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 HR WH 117

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 • Low Moisture Absorption
Uses	• Automotive Applications	• Automotive Electronics
RoHS Compliance	• RoHS Compliant	
Appearance	• White	
Forms	• Pellets	
Processing Method	• Water-Heated Mold Injection Molding	

Physical	Typical Value	Unit	Test method
Density	1.50	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	9100	MPa	ISO 527-2
Tensile Stress (Yield)	125	MPa	ISO 527-2
Tensile Strain (Break)	1.5	%	ISO 527-2
Flexural Modulus	7790	MPa	ISO 178
Flexural Stress	171	MPa	ISO 178

Impact	Typical Value	Unit	Test method
Notched Izod Impact			
--	27	J/m	ASTM D256
--	2.5	kJ/m²	ISO 180/1A

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

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Thermal	Typical Value	Unit	Test method
Heat Deflection Temperature			ISO 75-2/B
0.45 MPa, Unannealed	318	°C	
Melting Temperature	321	°C	ISO 11357-3
CLTE			ASTM E831
Flow : 0 to 100°C	3.1E-5	cm/cm/°C	
Flow : 150 to 250°C	1.4E-5	cm/cm/°C	
Transverse : 0 to 100°C	7.4E-5	cm/cm/°C	
Transverse : 150 to 250°C	1.6E-4	cm/cm/°C	

Additional Information	Typical Value	Unit	Test method
Optical Reflectivity [1]	> 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	304 to 318	°C
Front Temperature	316 to 329	°C
Processing (Melt) Temp	321 to 343	°C
Mold Temperature	135	°C

Injection Notes

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.

[1] 430 - 700 nm

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