

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 • North America	• South America
Filler / Reinforcement	• Glass Fiber Reinforcement, 22% Filler by Weight		
Features	• Fast Molding Cycle • Good Chemical Resistance	• 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/cm ³	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 Strength	171	MPa	ISO 178
Impact	Typical Value	Unit	Test Method
Notched Izod Impact			
--	27	J/m	ASTM D256
--	2.5	kJ/m ²	ISO 180/1A
Hardness	Typical Value	Unit	Test Method
Rockwell Hardness (R-Scale)	124		ASTM D785
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	0.000031	cm/cm/°C	
Flow: 150 to 250°C	0.000014	cm/cm/°C	
Transverse: 0 to 100°C	0.000074	cm/cm/°C	
Transverse: 150 to 250°C	0.00016	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	0.045	%
Rear Temperature	304 to 318	°C
Front Temperature	316 to 329	°C
Processing (Melt) Temp	321 to 343	°C
Mold Temperature	135	°C

Notes

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

¹ 430 - 700 nm

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