

Amodel® A-4122 LS WH678

polyphthalamide

Amodel A-4122 LS is a 22% glass fiber reinforced, light-stabilized, high-reflectivity white grade of Amodel polyphthalamide (PPA). It is designed to provide high crystallinity when molded in water-cooled molds. This resin 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 LS WH678

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		
Additive	• UV Stabilizer		
Features	• Fast Molding Cycle • Good Chemical Resistance • Good Color Stability	• High Reflectivity • High Stiffness • Light Stabilized	• 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	1.59	g/cm ³	ISO 1183/A
Molding Shrinkage			ASTM D955
Flow	0.40	%	
Across Flow	0.60	%	
Water Absorption (24 hr)	0.19	%	ASTM D570
Mechanical	Typical Value	Unit	Test Method
Tensile Modulus	9100	MPa	ASTM D638
Tensile Strength	104	MPa	ASTM D638
Tensile Elongation (Break)	1.2	%	ASTM D638
Flexural Modulus	8100	MPa	ASTM D790
Flexural Strength	165	MPa	ASTM D790
Impact	Typical Value	Unit	Test Method
Notched Izod Impact	18	J/m	ASTM D256
Hardness	Typical Value	Unit	Test Method
Rockwell Hardness (R-Scale)	124		ASTM D785
Thermal	Typical Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	290	°C	
Peak Melting Temperature	323	°C	ASTM D3418

Thermal	Typical Value	Unit	Test Method
CLTE			
Flow: 0 to 100°C	0.00025	cm/cm/°C	ASTM E831
Flow: 150 to 250°C	0.00019	cm/cm/°C	ASTM E831
Transverse: 0 to 100°C	0.00096	cm/cm/°C	ASTM E228
Transverse: 150 to 250°C	0.0015	cm/cm/°C	ASTM E228

Additional Information	Typical Value	Unit	Test Method
Optical Reflectivity			ASTM E1331
460 nm	> 90	%	
540 nm	> 90	%	
615 nm	> 90	%	

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
Middle Temperature	318 to 324	°C
Front Temperature	327 to 332	°C
Processing (Melt) Temp	329 to 343	°C
Mold Temperature	65.0 to 93.0	°C

Injection Notes

Injection Rate: 3 to 4 in/sec
 Holding Pressure: 50% of injection pressure

Notes

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

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