

# Amodel® A-4122 LS WH 678

## 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 WH 678

### General

Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Glass Fiber, 22% Filler by Weight	
Additive	• UV Stabilizer	
Features	• Chemical Resistant • Fast Molding Cycle • 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 <sup>3</sup>	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

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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
CLTE			
Flow : 0 to 100°C	2.5E-4	cm/cm/°C	ASTM E831
Flow : 150 to 250°C	1.9E-4	cm/cm/°C	ASTM E831
Transverse : 0 to 100°C	9.6E-4	cm/cm/°C	ASTM E228
Transverse : 150 to 250°C	1.5E-3	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	%	

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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 to 93	°C

### Injection Notes

Injection Rate: 3 to 4 in/sec

Holding Pressure: 50% of injection pressure

### 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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