

Amodel® A-4422 LS polyphthalamide

Amodel® A-4422 LS resin is a 22% reinforced, light-stabilized, high-reflectivity white grade of polyphthalamide (PPA). The 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 characteristics can result in shorter cycles, thereby enhancing molding productivity and lowering costs.

- White: A-4422 LS WH118

General

Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Mineral, 22% Filler by Weight	
Features	• Chemical Resistant • Fast Molding Cycle • Good Color Stability • High Reflectivity	• High Stiffness • Light Stabilized • Low Moisture Absorption
Uses	• Automotive Applications • Automotive Electronics	• LEDs
RoHS Compliance	• RoHS Compliant	
Appearance	• White	
Forms	• Pellets	
Processing Method	• Injection Molding	

Physical	Typical Value	Unit	Test method
Density	1.60	g/cm ³	ISO 1183/A
Molding Shrinkage			ASTM D955
Flow	0.50	%	
Across Flow	0.60	%	
Water Absorption (24 hr)	0.20	%	ASTM D570

Mechanical	Typical Value	Unit	Test method
Tensile Modulus	9100	MPa	ISO 527-1
Tensile Strength	102	MPa	ASTM D638
Tensile Strain (Break)	1.3	%	ISO 527-2
Flexural Modulus	7790	MPa	ISO 178
Flexural Stress	171	MPa	ISO 178

Impact	Typical Value	Unit	Test method
Notched Izod Impact Strength	2.9	kJ/m ²	ISO 180/1A

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Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load 0.45 MPa, Unannealed	306	°C	ISO 75-2/B
Melting Temperature	324	°C	ISO 11357-3
CLTE			ASTM E831
Flow : 50 to 100°C	3.1E-5	cm/cm/°C	
Flow : 100 to 150°C	3.8E-5	cm/cm/°C	
Flow : 150 to 200°C	2.7E-5	cm/cm/°C	
Flow : 200 to 250°C	3.1E-5	cm/cm/°C	
Transverse : 50 to 100°C	6.3E-5	cm/cm/°C	
Transverse : 100 to 150°C	1.0E-4	cm/cm/°C	
Transverse : 150 to 200°C	1.3E-4	cm/cm/°C	
Transverse : 200 to 250°C	1.5E-4	cm/cm/°C	

Additional Information	Typical Value	Unit	Test method
Optical Reflectivity			ASTM E1331
-- 1	> 90	%	
-- 2	> 90	%	
-- 3	> 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
Front Temperature	327 to 332	°C
Processing (Melt) Temp	329 to 343	°C
Mold Temperature	66 to 140	°C

Injection Notes

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.

¹ 460 nm

² 540 nm

³ 615 nm

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