Amodel® A-4160 L
polyphthalamide

Amodel® A-4160 L is a 60% glass reinforced polyphthalamide (PPA) which exhibits high modulus, a high heat deflection temperature, and exceptional creep resistance. This material was designed to replace metal and is particularly suited for corrosion sensitive applications. Its rapid crystallization and good flow characteristics allow shorter cycles for enhanced molding productivity.

- Black: A-4160 L BK324

General		
Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Glass Fiber, 60% Filler by Weight	
Additive	• Lubricant	• Mold Release
Features	• Chemical Resistant • Creep Resistant • Fast Molding Cycle • Good Dimensional Stability • Good Toughness • High Strength	• Hot Water Moldability • Low CLTE • Lubricated • Non-Corrosive • Ultra High Stiffness
Uses	• Automotive Applications • Automotive Electronics • Camera Applications • Cell Phones • Connectors	• Electrical/Electronic Applications • Housings • Industrial Applications • Machine/Mechanical Parts • Metal Replacement
RoHS Compliance	• RoHS Compliant	
Appearance	• Black	
Forms	• Pellets	
Processing Method	• Water-Heated Mold Injection Molding	

Physical	Typical Value	Unit	Test method
Density	1.75	g/cm³	ISO 1183/A
Molding Shrinkage			ISO 294-4
Across Flow	0.80	%	
Flow	0.50	%	
Water Absorption (24 hr, 23°C)	0.19	%	ISO 62

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Mechanical	Typical Value	Unit	Test method
Tensile Modulus (23°C)	23300	MPa	ISO 527-1
Tensile Stress (Break, 23°C)	244	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	1.4	%	ISO 527-2
Flexural Modulus (23°C)	19300	MPa	ISO 178
Flexural Stress (23°C)	385	MPa	ISO 178

Impact	Typical Value	Unit	Test method
Charpy Notched Impact Strength (23°C)	13	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	130	kJ/m²	ISO 179/1eU

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load			ISO 75-2/A
1.8 MPa, Unannealed	304	°C	

Injection	Typical Value	Unit
Drying Temperature	120	°C
Drying Time	4.0	hr
Rear Temperature	318 to 324	°C
Front Temperature	327 to 332	°C
Processing (Melt) Temp	329 to 343	°C
Mold Temperature	66 to 93	°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.

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Safety Data Sheets (SDS) are available by emailing us or contacting your sales representative. Always consult the appropriate SDS before using any of our products.