Amodel® AT-1125 HS

polyphthalamide

Amodel® AT-1125 HS polyphthalamide (PPA) is a toughened, heat stabilized 25% glass reinforced resin, designed as a cost effective solution for applications requiring stiffness, good dimensional stability, chemical resistance and ductility. This resin has a high heat deflection temperature and a high flexural modulus, with greater tensile elongation than untoughened glass-reinforced PPA.

Typical applications include bearings, bearing retainers/cages, housings, chemical processing equipment components, motor frames, sporting equipment, lawn and garden equipment and components that require press-fit or snap-fit assembly.

- Black: AT-1125 HS BK 324

General		
Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Glass Fiber, 25% Filler by Weight	
Additive	• Heat Stabilizer	• Impact Modifier
Features	• Chemical Resistant • Good Dimensional Stability • Heat Stabilized	• High Heat Resistance • Impact Modified
Uses	• Appliance Components • Appliances • Automotive Applications • Automotive Electronics • Automotive Under the Hood • Bearings • Connectors • Fuel Lines	• General Purpose • Housings • Industrial Applications • Industrial Parts • Lawn and Garden Equipment • Machine/Mechanical Parts • Metal Replacement
RoHS Compliance	• RoHS Compliant	
Automotive Specifications	• ASTM D4000 PA123 G25 • ASTM D4000 PPA0111 G25 KD160 KN075 LD002 PN080 YI250 • ASTM D6779 PA123G25 • ISO 1874 PA6T/6I/66-HI, MH, 12-080, GF25	
Appearance	• Black	
Forms	• Pellets	
Processing Method	• Injection Molding	

Physical	Dry	Conditioned	Unit	Test method
Density	1.35	--	g/cm³	ISO 1183/A
Molding Shrinkage				ASTM D955
Flow	0.40	--	%	
Across Flow	0.60	--	%	
Water Absorption (24 hr)	0.20	--	%	ASTM D570

Mechanical	Dry	Conditioned	Unit	Test method
Tensile Modulus				
--	8480	--	MPa	ASTM D638
--	8890	--	MPa	ISO 527-2

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Mechanical	Dry	Conditioned	Unit	Test method
Tensile Strength				
Break	174	--	MPa	ASTM D638
Break	190	--	MPa	ISO 527-2
Tensile Elongation				
Break	3.2	--	%	ASTM D638
Break	2.5	--	%	ISO 527-2
Flexural Modulus				
--	7580	7580	MPa	ASTM D790
--	7790	--	MPa	ISO 178
Flexural Stress				
--	240	--	MPa	ISO 178
Yield	255	200	MPa	ASTM D790

Impact	Dry	Conditioned	Unit	Test method
Charpy Notched Impact Strength	8.8	--	kJ/m²	ISO 179/1eA
Notched Izod Impact				
--	120	85	J/m	ASTM D256
--	8.8	--	kJ/m²	ISO 180/1A
Unnotched Izod Impact	1100	800	J/m	ASTM D256
Instrumented Dart Impact				ASTM D3763
Energy as Maximum Load [1]	--	1.90	J	
Energy at Maximum Load [2]	2.03	--	J	
Total Energy	13.8	9.36	J	

Thermal	Dry	Conditioned	Unit	Test method
Deflection Temperature Under Load				
0.45 MPa, Unannealed	279	--	°C	ASTM D648
1.8 MPa, Unannealed	235	--	°C	ASTM D648
1.8 MPa, Unannealed	280	--	°C	ISO 75-2/A
Melting Temperature	311	--	°C	ISO 11357-3 ASTM D3418

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Injection	Dry	Unit
Drying Temperature	121	°C
Drying Time	4.0	hr
Suggested Max Moisture	0.030 to 0.060	%
Hopper Temperature	79	°C
Rear Temperature	304 to 318	°C
Front Temperature	316 to 329	°C
Processing (Melt) Temp	321 to 343	°C
Mold Temperature	135	°C

Injection Notes

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] Maximum Load: 230 lb (1020 N)

[2] Maximum Load: 280 lb (1240 N)

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