Amodel® A-8940 HS

polyphthalamide

Amodel® A-8940 HS is a 40% glass-fiber-reinforced, heat-stabilized polyphthalamide (PPA) with a high heat deflection temperature and very high tensile strength. Excellent creep resistance and low moisture absorption are also characteristic of this resin.

- Black: A-8940 HS BK 328
- Natural: A-8940 HS NT

General

Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Glass Fiber, 40% Filler by Weight	
Additive	• Heat Stabilizer	
Features	• Chemical Resistant • Creep Resistant • Good Dimensional Stability • Good Stiffness • High Heat Resistance	• High Stiffness • High Strength • High Temperature Strength • Low Moisture Absorption
Uses	• Appliances • Automotive Applications • Automotive Electronics • Connectors • Consumer Applications	• Housings • Industrial Applications • Machine/Mechanical Parts • Metal Replacement
Appearance	• Black	• Natural Color
Forms	• Pellets	
Processing Method	• Injection Molding	

Physical	Typical Value	Unit	Test method
Density	1.57	g/cm³	ISO 1183/A
Molding Shrinkage			ASTM D955
Flow	0.34	%	
Across Flow	0.68	%	
Water Absorption (24 hr)	0.15	%	ASTM D570

Mechanical	Typical Value	Unit	Test method
Tensile Modulus (23°C)	15100	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	243	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	2.0	%	ISO 527-2
Flexural Modulus (23°C)	14500	MPa	ISO 178
Flexural Strain at Break (23°C)	2.6	%	ISO 178
Flexural Strength (Break, 23°C)	357	MPa	ISO 178

Impact	Typical Value	Unit	Test method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	9.5	kJ/m²	
23°C	9.7	kJ/m²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	59	kJ/m²	
23°C	60	kJ/m²	
Notched Izod Impact Strength (23°C)	10	kJ/m²	ISO 180/A
Unnotched Izod Impact Strength			ISO 180/A
-30°C	55	kJ/m²	
23°C	59	kJ/m²	

Thermal	Typical Value	Unit	Test method
Heat Deflection Temperature			
0.45 MPa, Unannealed	311	°C	ISO 75-2/Bf
1.8 MPa, Unannealed	293	°C	ISO 75-2/Af
Melting Temperature	323	°C	ISO 11357-3

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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	316 to 329	°C
Middle Temperature	316 to 329	°C
Front Temperature	324 to 335	°C
Processing (Melt) Temp	321 to 343	°C
Mold Temperature	150	°C

Injection Notes

Mold Temperature:

- Higher tool temperatures might be required for thin wall sections

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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