

# 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/cm <sup>3</sup>	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

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Impact	Typical Value	Unit	Test method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	9.5	kJ/m <sup>2</sup>	
23°C	9.7	kJ/m <sup>2</sup>	
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	59	kJ/m <sup>2</sup>	
23°C	60	kJ/m <sup>2</sup>	
Notched Izod Impact Strength (23°C)	10	kJ/m <sup>2</sup>	ISO 180/A
Unnotched Izod Impact Strength			ISO 180/A
-30°C	55	kJ/m <sup>2</sup>	
23°C	59	kJ/m <sup>2</sup>	

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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.



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.

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