Amodel® AS-1933 HS

Polyphthalamide

Solvay Specialty Polymers

Message:

AMODEL AS -1933 HS is a 33% glass fiber reinforced grade polyphthalamide (PPA) resin specially developed to improve the performance of products in 50/50 ethylene glycol and water environment. When exposed to anti-freezing agents at 226 °F(108 °C) or even at 275 °F(135 °C) test temperatures, the performance of this material exceeds the requirements of the automotive industry for polymer materials. It can be used in various auto parts, such as thermostat housing, heater core end cap, heater hose connector and water inlet, power socket and valve lamp. -black: AS-1933 HS BK 324

General Information			
Filler / Reinforcement	Glass fiber reinforced material, 33%	filler by weight	
Additive	heat stabilizer		
Features	Good dimensional stability		
	Rigid, good		
	High strength		
	frost resistance		
	Good creep resistance		
	Good chemical resistance		
	Heat resistance, high		
	Ethylene glycol resistance		
	Thermal Stability		
Uses	Power/other tools		
	Valve/valve components		
	Industrial components		
	Industrial application		
	Thick wall fittings (parts)		
	Machine/mechanical parts		
	Metal substitution		
	Parts under the hood of a car		
	Application in Automobile Field		
	Shell		
RoHS Compliance	RoHS compliance		
Appearance	Black		
Forms	Particle		
Processing Method	Injection molding		
Multi-Point Data	Isothermal Stress vs. Strain (ISO 11403-1)		
	Secant Modulus vs. Strain (ISO 11403-1)		
Physical	Nominal Value	Unit	Test Method

Density	1.45	g/cm³	ISO 1183/A
Molding Shrinkage			ASTM D955
Flow	0.20	%	ASTM D955
Transverse flow	0.60	%	ASTM D955
Water Absorption (24 hr)	0.21	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
1	7580	MPa	ASTM D638
	11700	MPa	ASTM D638
	12600	MPa	ISO 527-2
Tensile Strength			
Fracture ²	75.8	MPa	ASTM D638
Fracture	221	MPa	ASTM D638
Fracture	212	MPa	ISO 527-2
Tensile Elongation (Break)	2.5	%	ASTM D638, ISO 527-2
Flexural Modulus			
	10800	MPa	ASTM D790
	10600	MPa	ISO 178
Flexural Stress			
	309	MPa	ISO 178
Yield	313	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength	10	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength	76	kJ/m²	ISO 179/1eU
Notched Izod Impact			
3	53	J/m	ASTM D256
	91	J/m	ASTM D256
	9.5	kJ/m²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, not annealed	277	°C	ASTM D648
1.8 MPa, not annealed	278	°C	ISO 75-2/Af
Melting Temperature	312	°C	ISO 11357-3
Injection	Nominal Value	Unit	
Drying Temperature	121	°C	
Drying Time	4.0	hr	
Suggested Max Moisture	0.10	0/	
	0.10	70	
Hopper Temperature	79.4	<u>%</u> ℃	
Hopper Temperature Rear Temperature	79.4 304 - 318	°℃ ℃	
Hopper Temperature Rear Temperature Front Temperature	0.10 79.4 304 - 318 316 - 329	°℃ ℃	
Hopper Temperature Rear Temperature Front Temperature Processing (Melt) Temp	0.10 79.4 304 - 318 316 - 329 321 - 343	°℃ ℃ ℃	

Injection instructions

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.

NOTE	
	Impregnate in 50/50 ethylene
	glycol/water mixture at 275
1.	°F(135°C) for 1000 hours
	Impregnate in 50/50 ethylene
	glycol/water mixture at 275
2.	°F(135°C) for 1000 hours
	Impregnate in 50/50 ethylene
	glycol/water mixture at 275
3.	°F(135°C) for 1000 hours

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Recommended distributors for this material

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