Amodel® A-1933 HSL

Polyphthalamide

Solvay Specialty Polymers

Message:

Amodel A- 1933 HSL is a 33% glass fiber reinforced polyphthalamide (PPA) resin. This brand is mainly to improve the performance of the product in 50/50 ethylene glycol and water environment. At a temperature of 130 °C(266 ° F), ethylene glycol containing organic acid stabilizer was tested with harsh automobile coolant system. The results show that its performance exceeds the performance requirements of the automotive industry for polymer materials exposed to high temperature antifreeze. Potential applications include a variety of automotive components, such as thermostat housings, heater core end caps, heater hose fittings and water inlets, sockets, and valves.
black: A- 1933 HSL BK 328

General Information	
Filler / Reinforcement	Glass fiber reinforced material, 33% filler by weight
Additive	heat stabilizer Lubricant demoulding
Features	Good dimensional stability Rigid, good High strength frost resistance Good creep resistance Good chemical resistance Heat resistance, high Ethylene glycol resistance Lubrication
Uses	Valve/valve components 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)

Physical	Nominal Value	Unit	Test Method
Density	1.49	g/cm³	ISO 1183/A
Molding Shrinkage			
Flow [1]	0.20	%	ASTM D955
Transverse flow [2]	1.0	%	ASTM D955

Vertical flow direction	1.0	%	ISO 294-4
Flow direction	0.20	%	ISO 294-4
Water Absorption (24 hr)	0.19	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	11500	MPa	ISO 527-2
Tensile Stress (Yield)	195	MPa	ISO 527-2
Tensile Strain (Break)	1.8	%	ISO 527-2
Flexural Modulus	10300	MPa	ISO 178
Flexural Stress	280	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength	8.2	kJ/m^2	ISO 179/1eA
Notched Izod Impact	8.1	kJ/m^2	ISO 180/1A
Aging	Nominal Value	Unit	Test Method
Tensile modulus retention rate-1000 hours in ethylene glycol (130°C)	75	%	ISO 527-2
Tensile strength retention-1000 hours in ethylene glycol (130°C)	69	%	ISO 527-2
Flexural modulus of elasticity retention-1000 hours in ethylene glycol (130°C)	76	%	ISO 178
Bending strength retention-1000 hours in ethylene glycol (130°C)	71	%	ISO 178
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	295	°C	ISO 75-2/A
Melting Temperature	323	°C	ISO 11357-3
Injection	Nominal Value	Unit	
Drying Temperature	120	°C	
Drying Time	4.0	hr	
Suggested Max Moisture	0.045	%	
Rear Temperature	313 - 330	°C	
Front Temperature	326 - 339	°C	
Processing (Melt) Temp	331 - 352	°C	
Mold Temperature	150	°C	

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	
1.	D2 type
2.	D2 type

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