

Amodel® AS-1945 HS

Polyphthalamide
Solvay Specialty Polymers

Message:

Amodel AS -1945 HS is a 45% 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-1945 HS BK 324
natural color: AS-1945 HS NT

General Information	
Filler / Reinforcement	Glass fiber reinforced material, 45% 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	1.57	g/cm ³	ISO 1183/A
Molding Shrinkage			
Flow ¹	0.20	%	ASTM D955
Transverse flow ²	0.60	%	ASTM D955
Vertical flow direction	0.60	%	ISO 294-4
Flow direction	0.20	%	ISO 294-4
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ³	10300	MPa	ASTM D638
--	15200	MPa	ASTM D638
--	15100	MPa	ISO 527-2
Tensile Strength			
Fracture ⁴	107	MPa	ASTM D638
Fracture	252	MPa	ASTM D638
Fracture	244	MPa	ISO 527-2
Tensile Elongation (Break)	2.5	%	ASTM D638
Flexural Modulus			
--	13800	MPa	ASTM D790
--	12600	MPa	ISO 178
Flexural Stress			
--	335	MPa	ISO 178
Yield	359	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength	13	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
-- ⁵	69	J/m	ASTM D256
--	120	J/m	ASTM D256
--	11	kJ/m ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	282	°C	ASTM D648, ISO 75-2/Af
Melting Temperature	312	°C	ISO 11357-3
Injection	Nominal Value	Unit	Test Method
Drying Temperature	121	°C	
Drying Time	4.0	hr	
Suggested Max Moisture	0.10	%	
Hopper Temperature	79.4	°C	
Rear Temperature	304 - 318	°C	
Front Temperature	316 - 329	°C	
Processing (Melt) Temp	321 - 343	°C	
Mold Temperature	135	°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

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|----|---|
| 1. | D2 type |
| 2. | D2 type |
| 3. | Impregnate in 50/50 ethylene glycol/water mixture at 275 °F(135°C) for 1000 hours |
| 4. | Impregnate in 50/50 ethylene glycol/water mixture at 275 °F(135°C) for 1000 hours |
| 5. | Impregnate in 50/50 ethylene glycol/water mixture at 275 °F(135°C) for 1000 hours |

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Recommended distributors for this material

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