

Amodel® AS-1566 HS

Polyphthalamide
Solvay Specialty Polymers

Message:

Amodel AS -1566 HS resin is a 65% glass fiber and mineral fiber reinforced polyphthalamide (PPA) resin with high deformation temperature and high bending modulus. This brand is specially developed for high cost-effective products requiring high rigidity, good dimensional stability and chemical resistance. Amodel AS -1566 HS resin Conventional applications include electrical connectors and housings, auto parts, pistons, covers, engine parts and transmission parts. -Black: AS-1566 HS BK 324
black: AS-1566 HS BK 545
natural color: AS-1566 HS NT

General Information	
UL YellowCard	E95746-253239
Filler / Reinforcement	Glass \mineral, 65% filler by weight
Additive	heat stabilizer
Features	Super rigidity
	Good dimensional stability
	Low CLTE
	High strength
	Good creep resistance
	Good chemical resistance
	Heat resistance, high
	Thermal Stability
Uses	Good toughness
	Lawn and Garden Equipment
	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
	Automotive Electronics
	Application in Automobile Field
	General
	Shell
RoHS Compliance	RoHS compliance
Appearance	Black
	Natural color

Forms	Particle			
Processing Method	Injection molding			
Multi-Point Data	Isothermal Stress vs. Strain (ISO 11403-1)			
	Secant Modulus vs. Strain (ISO 11403-1)			
	Viscosity vs. Shear Rate (ISO 11403-2)			

Physical	Dry	Conditioned	Unit	Test Method
Density	1.84	--	g/cm ³	ISO 1183/A
Molding Shrinkage				ASTM D955
Flow	0.30	--	%	ASTM D955
Transverse flow	0.50	--	%	ASTM D955
Water Absorption (24 hr)	0.10	--	%	ASTM D570
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus				
--	20000	20900	MPa	ASTM D638
23°C	22500	--	MPa	ISO 527-2
100°C	17200	--	MPa	ISO 527-2
150°C	7310	--	MPa	ISO 527-2
175°C	6210	--	MPa	ISO 527-2
Tensile Strength				
Fracture	207	--	MPa	ASTM D638
Fracture, 23°C	200	--	MPa	ISO 527-2
Fracture, 100°C	127	--	MPa	ISO 527-2
Fracture, 150°C	52.4	--	MPa	ISO 527-2
Fracture, 175°C	43.4	--	MPa	ISO 527-2
--	--	175	MPa	ASTM D638
Tensile Elongation				
Fracture	1.7	1.8	%	ASTM D638
Fracture, 23°C	1.4	--	%	ISO 527-2
Fracture, 100°C	1.5	--	%	ISO 527-2
Fracture, 150°C	3.4	--	%	ISO 527-2
Fracture, 175°C	3.1	--	%	ISO 527-2
Flexural Modulus				
--	18600	19900	MPa	ASTM D790
23°C	20500	--	MPa	ISO 178
100°C	16800	--	MPa	ISO 178
150°C	7310	--	MPa	ISO 178
175°C	6410	--	MPa	ISO 178
Flexural Strength				
--	--	263	MPa	ASTM D790
23°C	284	--	MPa	ISO 178

100°C	205	--	MPa	ISO 178
150°C	95.8	--	MPa	ISO 178
175°C	75.8	--	MPa	ISO 178
Yield	290	--	MPa	ASTM D790
Shear Strength	80.0	62.7	MPa	ASTM D732
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength (23°C)	6.1	--	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	34	--	kJ/m ²	ISO 179/1eU
Notched Izod Impact				
--	64	53	J/m	ASTM D256
23°C	6.5	--	kJ/m ²	ISO 180/1A
Unnotched Izod Impact				
--	590	--	J/m	ASTM D256
23°C	44	--	kJ/m ²	ISO 180/1U
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
1.8 MPa, not annealed	280	--	°C	ISO 75-2/A
1.8 MPa, annealed	278	--	°C	ASTM D648
Melting Temperature	311	--	°C	ISO 11357-3, ASTM D3418
Linear thermal expansion coefficient				ASTM E831
Flow: 0 to 100°C	1.7E-5	--	cm/cm/°C	ASTM E831
Flow: 100 to 200°C	1.7E-5	--	cm/cm/°C	ASTM E831
Lateral: 0 to 100°C	4.0E-5	--	cm/cm/°C	ASTM E831
Lateral: 100 to 200°C	7.2E-5	--	cm/cm/°C	ASTM E831
Injection	Dry	Unit		
Drying Temperature	120		°C	
Drying Time	4.0		hr	
Suggested Max Moisture	0.045		%	
Hopper Temperature	79.4		°C	
Rear Temperature	307 - 329		°C	
Front Temperature	307 - 329		°C	
Processing (Melt) Temp	321 - 343		°C	
Mold Temperature	65.6 - 166		°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.

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