Amodel® A-6135 HN

Polyphthalamide

Solvay Specialty Polymers

Message:

Amodel® A-6135 HN polyphthalamide (PPA) is a 35% glass reinforced resin that is heat stabilized, lubricated and hot-water moldable. Key properties of the resin are high heat resistance, high strength and stiffness over a broad temperature range. It also exhibits low moisture absorption, excellent chemical resistance and excellent electrical properties.
Amodel® A-6135 HN resin is ideal for automotive electrical and electronic applications, including connectors, sockets, switches and sensors. It is also a good choice for under-hood enclosures that protect critical control systems such as anti-lock brakes, traction control, steering, electronic engine control, transmission and chassis control units.
Black: A-6135 HN BK 324
Natural A-6135 HS NT

General Information	
Filler / Reinforcement	Glass fiber reinforced material, 35% filler by weight
Additive	heat stabilizer
Features	Low hygroscopicity
	Rigidity, high
	Rigid, good
	High strength
	Good creep resistance
	Good liquidity
	Good chemical resistance
	Heat resistance, high
	Hot water formability
	Thermal Stability
Uses	Lawn and Garden Equipment
	Electrical/Electronic Applications
	Electrical housing
	Power/other tools
	Valve/valve components
	Industrial components
	Industrial application
	Machine/mechanical parts
	Metal substitution
	Connector
	Parts under the hood of a car
	Automotive Electronics
	Application in Automobile Field
	General
	Shell

RoHS Compliance		Contact manufacturer		
Appearance		Black		
Forms		Particle		
Processing Method		Water temperature mold injection molding		
Multi-Point Data		Isothermal Stress vs. Strain (ISO 11403-1)		
Physical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Density	1.45	--	g/cm³	ISO 1183/A
Molding Shrinkage				
Flow	0.60	--	%	ASTM D955
Transverse flow	0.90	--	%	ASTM D955
Vertical flow direction	1.0	--	%	ISO 294-4
Flow direction	0.50	--	%	ISO 294-4
Water Absorption				
24 hr	0.30	--	%	ASTM D570
23°C, 24 hr	0.29	--	%	ISO 62
Hardness	**Dry**	**Conditioned**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale)	125	--		ASTM D785
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus				
--	13800	12200	MPa	ASTM D638
23°C	11500	--	MPa	ISO 527-2
100°C	7310	--	MPa	ISO 527-2
150°C	6270	--	MPa	ISO 527-2
175°C	5310	--	MPa	ISO 527-2
Tensile Stress				
Fracture, 23°C	211	--	MPa	ISO 527-2
Fracture, 100°C	121	--	MPa	ISO 527-2
Fracture, 150°C	92.4	--	MPa	ISO 527-2
Fracture, 175°C	82.0	--	MPa	ISO 527-2
--	203	176	MPa	ASTM D638
Tensile Elongation				
Fracture	1.9	2.1	%	ASTM D638
Fracture, 23°C	2.0	--	%	ISO 527-2
Fracture, 100°C	4.3	--	%	ISO 527-2
Fracture, 150°C	4.9	--	%	ISO 527-2
Fracture, 175°C	4.7	--	%	ISO 527-2
Flexural Modulus				
--	11400	11000	MPa	ASTM D790
23°C	11400	--	MPa	ISO 178
100°C	6600	--	MPa	ISO 178

150°C	4900	--	MPa	ISO 178
175°C	4600	--	MPa	ISO 178
Flexural Strength				
--	310	249	MPa	ASTM D790
3.5% strain, 23°C	300	--	MPa	ISO 178
3.5% strain, 100°C	170	--	MPa	ISO 178
3.5% strain, 150°C	123	--	MPa	ISO 178
3.5% strain, 175°C	112	--	MPa	ISO 178
Compressive Strength	148	--	MPa	ASTM D695
Shear Strength	87.6	73.8	MPa	ASTM D732
Poisson's Ratio	0.39	--		ASTM E132
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Charpy Notched Impact Strength (23°C)	9.2	--	kJ/m^2	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	60	--	kJ/m^2	ISO 179/1eU
Notched Izod Impact				
--	85	69	J/m	ASTM D256
23°C	9.1	--	kJ/m^2	ISO 180
Unnotched Izod Impact				
--	800	--	J/m	ASTM D256
23°C	62	--	kJ/m^2	ISO 180
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Heat Deflection Temperature				
0.45 MPa, not annealed	303	--	°C	ISO 75-2/B
1.8 MPa, not annealed	288	--	°C	ISO 75-2/A
1.8 MPa, annealed, 3.20mm	291	--	°C	ASTM D648
Melting Temperature	310	--	°C	ASTM D570, ISO 11357-3
Linear thermal expansion coefficient				ASTM E831
Flow: 0 to 100°C	2.2E-5	--	cm/cm/°C	ASTM E831
Flow: 100 to 200°C	1.6E-5	--	cm/cm/°C	ASTM E831
Lateral: 0 to 100°C	6.1E-5	--	cm/cm/°C	ASTM E831
Lateral: 100 to 200°C	1.0E-4	--	cm/cm/°C	ASTM E831
Injection	**Dry**	**Unit**		
Drying Temperature	120		°C	
Drying Time	4.0		hr	
Suggested Max Moisture	0.045		%	
Rear Temperature	316 - 321		°C	
Front Temperature	327 - 332		°C	
Processing (Melt) Temp	321 - 335		°C	
Mold Temperature	65.6 - 93.3		°C	

Injection instructions

Injection Rate: 3 to 6 in/secHolding Pressure: 50% of injection pressureStorage:
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.

Recommended distributors for this material

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