Solvay Specialty Polymers Amodel® A-6135 HN Polyphthalamide (PPA) (Unverified Data**)

Category : Polymer , Thermoplastic , Polyphthalamide (PPA) , Polyphthalamide (PPA), 40% Glass Fiber Reinforced

Material Notes:

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 324Injection Notes: Injection Rate: 3 to 6 in/sec Holding Pressure: 50% of injection pressureData is presented for dry polymer unless noted as 'conditioned'.Information provided by Solvay Specialty Polymers.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Amodel-A-6135-HN-Polyphthalamide-PPA-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.45 g/cc	0.0524 lb/in³	ISO 1183/A
Filler Content	35 %	35 %	Glass Fiber Reinforcement
Water Absorption	0.29 % @Temperature 23.0 °C, Time 86400 sec	0.29 % @Temperature 73.4 °F, Time 24.0 hour	ISO 62
	0.30 % @Time 86400 sec	0.30 % @Time 24.0 hour	ASTM D570
Linear Mold Shrinkage, Flow	0.0050 cm/cm	0.0050 in/in	ISO 294-4
	0.0060 cm/cm	0.0060 in/in	ASTM D955
Linear Mold Shrinkage, Transverse	0.0090 cm/cm	0.0090 in/in	ASTM D955
	0.010 cm/cm	0.010 in/in	ISO 294-4

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	125	125	R-Scale; ASTM D785
Tensile Strength at Break	82.0 MPa @Temperature 175 °C	11900 psi @Temperature 347 °F	ISO 527-2
	92.4 MPa @Temperature 150 °C	13400 psi @Temperature 302 °F	ISO 527-2
	121 MPa	17500 psi	

Mechanical Properties	Metric	English	Comments
	@Temperature 100 °C	@Temperature 212 °F	ISO 527-2
	211 MPa @Temperature 23.0 °C	30600 psi @Temperature 73.4 °F	ISO 527-2
Tensile Strength	176 MPa	25500 psi	Conditioned; ASTM D638
	203 MPa	29400 psi	ASTM D638
Elongation at Break	1.9 %	1.9 %	ASTM D638
	2.1 %	2.1 %	Conditioned; ASTM D638
	2.0 % @Temperature 23.0 °C	2.0 % @Temperature 73.4 °F	ISO 527-2
	4.3 % @Temperature 100 °C	4.3 % @Temperature 212 °F	ISO 527-2
	4.7 % @Temperature 175 °C	4.7 % @Temperature 347 °F	ISO 527-2
	4.9 % @Temperature 150 °C	4.9 % @Temperature 302 °F	ISO 527-2
Tensile Modulus	12.2 GPa	1770 ksi	Conditioned; ASTM D638
	13.8 GPa	2000 ksi	ASTM D638
	5.31 GPa @Temperature 175 °C	770 ksi @Temperature 347 °F	ISO 527-2
	6.27 GPa @Temperature 150 °C	909 ksi @Temperature 302 °F	ISO 527-2
	7.31 GPa @Temperature 100 °C	1060 ksi @Temperature 212 °F	ISO 527-2
	11.5 GPa @Temperature 23.0 °C	1670 ksi @Temperature 73.4 °F	ISO 527-2
Flexural Strength	249 MPa	36100 psi	Conditioned; ASTM D790
	310 MPa	45000 psi	ASTM D790
	112 MPa @Temperature 175 °C	16200 psi @Temperature 347 °F	3.5% Strain; ISO 178
	123 MPa	17800 psi	

Mechanical Properties	Metric	English	Comments
	@Temperature 150 °C	@Temperature 302 °F	3.5% Strain; ISO 178
	170 MPa @Temperature 100 °C	24700 psi @Temperature 212 °F	3.5% Strain; ISO 178
	300 MPa @Temperature 23.0 °C	43500 psi @Temperature 73.4 °F	3.5% Strain; ISO 178
Flexural Modulus	11.0 GPa	1600 ksi	Conditioned; ASTM D790
	11.4 GPa	1650 ksi	ASTM D790
	4.60 GPa @Temperature 175 °C	667 ksi @Temperature 347 °F	ISO 178
	4.90 GPa @Temperature 150 °C	711 ksi @Temperature 302 °F	ISO 178
	6.60 GPa @Temperature 100 °C	957 ksi @Temperature 212 °F	ISO 178
	11.4 GPa @Temperature 23.0 °C	1650 ksi @Temperature 73.4 °F	ISO 178
Compressive Strength	148 MPa	21500 psi	ASTM D695
Poissons Ratio	0.39	0.39	ASTM E132
Shear Modulus	4.14 - 4.96 GPa	600 - 719 ksi	Calculated
Shear Strength	73.8 MPa	10700 psi	Conditioned; ASTM D732
	87.6 MPa	12700 psi	ASTM D732
Izod Impact, Notched	0.690 J/cm	1.29 ft-lb/in	Conditioned; ASTM D256
	0.850 J/cm	1.59 ft-lb/in	ASTM D256
	8.00 J/cm	15.0 ft-lb/in	ASTM D256
Izod Impact, Notched (ISO)	9.10 kJ/m²	4.33 ft-lb/in²	ISO 180
Izod Impact, Unnotched (ISO)	62.0 kJ/m² @Temperature 23.0 °C	29.5 ft-lb/in² @Temperature 73.4 °F	ISO 180
Charpy Impact Unnotched	6.00 J/cm²	28.6 ft-lb/in²	ISO 179/1eU
Charpy Impact, Notched	0.920 J/cm²	4.38 ft-lb/in²	ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	16.0 µm/m-°C @Temperature 100 - 200 °C	8.89 µin/in-°F @Temperature 212 - 392 °F	TMA; ASTM E831
	22.0 µm/m-°C @Temperature 0.000 - 100 °C	12.2 µin/in-°F @Temperature 32.0 - 212 °F	TMA; ASTM E831
CTE, linear, Transverse to Flow	61.0 µm/m-°C @Temperature 0.000 - 100 °C	33.9 µin/in-°F @Temperature 32.0 - 212 °F	ASTM E831
	100 µm/m-°C @Temperature 100 - 200 °C	55.6 µin/in-°F @Temperature 212 - 392 °F	ASTM E831
Melting Point	310 °C	590 °F	ISO 11357-3
	310 °C	590 °F	ASTM D570
Deflection Temperature at 0.46 MPa (66 psi)	303 °C	577 °F	Unannealed; ISO 75-2/B
Deflection Temperature at 1.8 MPa (264 psi)	288 °C	550 °F	Unannealed; ISO 75-2/A
	291 °C @Thickness 3.20 mm	556 °F @Thickness 0.126 in	Annealed; ASTM D648

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	316 - 321 °C	601 - 610 °F	
Front Barrel Temperature	327 - 332 °C	621 - 630 °F	
Melt Temperature	321 - 335 °C	610 - 635 °F	
Mold Temperature	65.6 - 93.3 °C	150 - 200 °F	
Drying Temperature	120 °C	248 °F	
Dry Time	4.00 hour	4.00 hour	
Moisture Content	0.045 %	0.045 %	

Descriptive Properties	Value	Comments
Additive	Heat Stabilizer	
Appearance	Black	

Descriptive Properties	Value	Comments
Automotive Specifications	ASTM D6779 PA101G35 Amodel A-6135 HN	
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	North America	
	South America	
Features	Good Chemical Resistance	
	Good Creep Resistance	
	Good Flow	
	Good Stiffness	
	Heat Stabilized	

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