

Solvay Specialty Polymers Amodel® A-4145 HH Polyphthalamide (PPA), 45% Glass Fiber (Dry)

Category : Polymer , Thermoplastic , Polyphthalamide (PPA) , Polyphthalamide (PPA), 50% Glass Fiber Reinforced

Material Notes:

Amodel® A-4145 HH is a 45% glass fiber reinforced heat stabilized grade of polyphthalamide (PPA) that has been designed to provide outstanding property retention to thermal oxidative degradation at temperatures of 230°C. Other features are fast cycling and hot water moldability. This product is particularly suitable to air induction applications within downsized automotive engines such as air induction charge air cooling and exhaust gas recirculation. Features: Fast Molding Cycle; Good Chemical Resistance; Good Creep Resistance; Good Dimensional Stability; Good Stiffness; Heat Stabilized; High Heat Resistance; High Strength; Hot Water Moldability; Laser Weldable; Low Moisture Absorption; Lubricated Uses: Automotive Applications; Automotive Under the Hood; Metal Replacement Injection Molding Notes: 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. Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Amodel-A-4145-HH-Polyphthalamide-PPA-45-Glass-Fiber-Dry.php

Physical Properties	Metric	English	Comments
Density	1.57 g/cc	0.0567 lb/in ³	ISO 1183
Filler Content	45 %	45 %	Glass Fiber
Water Absorption	0.37 % @Time 86400 sec	0.37 % @Time 24.0 hour	ISO 62
Linear Mold Shrinkage, Flow	0.0040 cm/cm	0.0040 in/in	
Linear Mold Shrinkage, Transverse	0.0080 cm/cm	0.0080 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	60.0 MPa @Temperature 230 °C	8700 psi @Temperature 446 °F	3; ISO 527-2
	70.0 MPa @Temperature 200 °C	10200 psi @Temperature 392 °F	3; ISO 527-2
	225 MPa @Temperature 23.0 °C	32600 psi @Temperature 73.4 °F	3; ISO 527-2
Elongation at Break	1.8 % @Temperature 23.0	1.8 %	ISO 527-2

Mechanical Properties	°C Metric	@Temperature 73.4 °F English	Comments
	6.1 %	6.1 %	ISO 527-2
	@Temperature 150 °C	@Temperature 302 °F	
	6.3 %	6.3 %	ISO 527-2
	@Temperature 230 °C	@Temperature 446 °F	
Tensile Modulus	16.4 GPa	2380 ksi	ISO 527-2
Flexural Strength	325 MPa	47100 psi	ISO 178
Flexural Modulus	14.5 GPa	2100 ksi	ISO 178
Compressive Strength	179 MPa	26000 psi	ASTM D695
Poissons Ratio	0.41	0.41	ASTM E132
Shear Strength	89.6 MPa	13000 psi	ASTM D732
Izod Impact, Notched (ISO)	10.0 kJ/mÂ²	4.76 ft-lb/inÂ²	Type 1, Notch A; ISO 180
Izod Impact, Unnotched (ISO)	65.0 kJ/mÂ²	30.9 ft-lb/inÂ²	Type 1; ISO 180
Charpy Impact Unnotched	8.00 J/cmÂ²	38.1 ft-lb/inÂ²	Type 1, Edgewise; ISO 179
Charpy Impact, Notched	1.10 J/cmÂ²	5.23 ft-lb/inÂ²	Type 1, Edgewise; ISO 179

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	15.0 Âµm/m-Â°C	8.33 Âµin/in-Â°F	2
	@Temperature 100 - 200 °C	@Temperature 212 - 392 °F	
	20.0 Âµm/m-Â°C	11.1 Âµin/in-Â°F	2
	@Temperature 0.000 - 100 °C	@Temperature 32.0 - 212 °F	
CTE, linear, Transverse to Flow	76.0 Âµm/m-Â°C	42.2 Âµin/in-Â°F	TMA; ASTM E831
	@Temperature 0.000 - 100 °C	@Temperature 32.0 - 212 °F	
	120 Âµm/m-Â°C	66.7 Âµin/in-Â°F	TMA; ASTM E831
	@Temperature 100 - 200 °C	@Temperature 212 - 392 °F	
Melting Point	327 °C	621 °F	ISO 11357-3
	327 °C	621 °F	DSC
Deflection Temperature at 1.8 MPa (264 psi)	297 °C	567 °F	Unannealed; ISO 75-2/A

Thermal Properties <i>Flammability, UL 94</i>	Metric	English	Comments
	@Thickness 3.20 mm	@Thickness 0.126 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.00e+15 ohm-cm	2.00e+15 ohm-cm	ASTM D257
Dielectric Constant	3.6	3.6	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.8	3.8	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
Dielectric Strength	20.0 kV/mm	508 kV/in	ASTM D149
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Dissipation Factor	0.0040	0.0040	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
	0.012	0.012	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	600 V	600 V	UL 746
High Voltage Arc-Tracking Rate, HVTR	14.0 mm/min	0.551 in/min	UL 746

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	318 - 324 Â°C	604 - 615 Â°F	
Front Barrel Temperature	327 - 332 Â°C	621 - 630 Â°F	
Melt Temperature	329 - 343 Â°C	624 - 649 Â°F	
Mold Temperature	65.6 - 93.3 Â°C	150 - 200 Â°F	
Drying Temperature	120 Â°C	248 Â°F	
	@Time 14400 sec	@Time 4.00 hour	
Moisture Content	<= 0.045 %	<= 0.045 %	

Descriptive Properties	Value	Comments
Additive	Heat Stabilizer	
	Lubricant	

Descriptive Properties	Value	Comments
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	Latin America	
	North America	
Color	Black	
Form	Pellets	
Processing Technique	Water-Heated Mold Injection Molding	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China