Solvay Specialty Polymers Amodel® A-1240 L Polyphthalamide (PPA) (discontinued **)

Category : Polymer , Thermoplastic , Polyphthalamide (PPA) , Polyphthalamide (PPA), Mineral Filled

Material Notes:

Amodel A-1240 L is a 40% mineral filled polyphthalamide (PPA) that offers low warpage and excellent dimensional stability. This resin also has a high deflection temperature, flexural modulus and tensile strength, and low moisture absorption. . - Black: A-1240 L BK 324 - Natural: A-1240 L NTAdditional Information: Melting Point, ISO 11357-3: 595°FData is presented for dry polymer.Information provided by Solvay Specialty Polymers.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Amodel-A-1240-L-Polyphthalamide-PPA-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.54 g/cc	1.54 g/cc	ASTM D792
Density	1.54 g/cc	0.0556 lb/in³	ISO 1183/A
Filler Content	40 %	40 %	Mineral Filler
Water Absorption	0.10 % @Time 86400 sec	0.10 % @Time 24.0 hour	ASTM D570
Linear Mold Shrinkage, Flow	0.010 cm/cm	0.010 in/in	ASTM D955
Linear Mold Shrinkage, Transverse	0.010 cm/cm	0.010 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	125	125	R-Scale; ASTM D785
Tensile Strength at Break	103 MPa	14900 psi	ASTM D638
	24.1 MPa @Temperature 175 °C	3500 psi @Temperature 347 °F	ISO 527-2
	29.0 MPa @Temperature 150 °C	4210 psi @Temperature 302 °F	ISO 527-2
	69.6 MPa @Temperature 100 °C	10100 psi @Temperature 212 °F	ISO 527-2
	104 MPa @Temperature 23.0 °C	15100 psi @Temperature 73.4 °F	ISO 527-2
Elongation at Break	1.6 %	1.6 %	ASTM D638

Mechanical Properties	Metric	English	Comments
	1.6 % @Temperature 23.0 °C	1.6 % @Temperature 73.4 °F	
	1.9 % @Temperature 100 °C	1.9 % @Temperature 212 °F	ISO 527-2
	7.3 % @Temperature 175 °C	7.3 % @Temperature 347 °F	ISO 527-2
	9.1 % @Temperature 150 °C	9.1 % @Temperature 302 °F	ISO 527-2
Tensile Modulus	8.96 GPa	1300 ksi	ASTM D638
	0.896 GPa @Temperature 175 °C	130 ksi @Temperature 347 °F	ISO 527-2
	1.10 GPa @Temperature 150 °C	160 ksi @Temperature 302 °F	ISO 527-2
	5.58 GPa @Temperature 100 °C	809 ksi @Temperature 212 °F	ISO 527-2
	10.0 GPa @Temperature 23.0 °C	1450 ksi @Temperature 73.4 °F	ISO 527-2
Flexural Strength	207 MPa	30000 psi	ASTM D790
	22.1 MPa @Temperature 175 °C	3210 psi @Temperature 347 °F	ISO 178
	27.6 MPa @Temperature 150 °C	4000 psi @Temperature 302 °F	ISO 178
	121 MPa @Temperature 100 °C	17500 psi @Temperature 212 °F	ISO 178
	172 MPa @Temperature 23.0 °C	24900 psi @Temperature 73.4 °F	ISO 178
Flexural Modulus	7.58 GPa	1100 ksi	ASTM D790
	0.896 GPa @Temperature 175 °C	130 ksi @Temperature 347 °F	ISO 178
	1.10 GPa @Temperature 150 °C	160 ksi @Temperature 302 °F	ISO 178

Mechanical Properties	Metric	English	Comments
	6.00 GPa @Temperature 100 °C	870 ksi @Temperature 212 °F	ISO 178
	6.89 GPa @Temperature 23.0 °C	999 ksi @Temperature 73.4 °F	ISO 178
Compressive Strength	185 MPa	26800 psi	ASTM D695
Poissons Ratio	0.29	0.29	ASTM E132
Shear Modulus	3.47 - 3.88 GPa	503 - 563 ksi	Calculated
Shear Strength	95.8 MPa	13900 psi	ASTM D732
Izod Impact, Notched	0.480 J/cm	0.899 ft-lb/in	ASTM D256
	5.30 J/cm	9.93 ft-lb/in	ASTM D256
Izod Impact, Notched (ISO)	4.60 kJ/m²	2.19 ft-lb/in²	ISO 180/1A
Izod Impact, Unnotched (ISO)	23.0 kJ/m² @Temperature -5.00 °C	10.9 ft-lb/in² @Temperature 23.0 °F	ISO 180/1U
Charpy Impact Unnotched	2.90 J/cm²	13.8 ft-lb/in²	ISO 179/1eU
Charpy Impact, Notched	0.400 J/cm²	1.90 ft-lb/in²	ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	17.0 µm/m-°C @Temperature 100 - 200 °C	9.44 µin/in-°F @Temperature 212 - 392 °F	TMA; ASTM E831
	23.0 µm/m-°C @Temperature 0.000 - 100 °C	12.8 µin/in-°F @Temperature 32.0 - 212 °F	TMA; ASTM E831
CTE, linear, Transverse to Flow	80.0 µm/m-°C @Temperature 0.000 - 100 °C	44.4 µin/in-°F @Temperature 32.0 - 212 °F	ASTM E831
	120 µm/m-°C @Temperature 100 - 200 °C	66.7 µin/in-°F @Temperature 212 - 392 °F	ASTM E831
Melting Point	310 °C	590 °F	
Deflection Temperature at 0.46 MPa (66 psi)	260 °C	500 °F	Unannealed; ASTM D648
Deflection Temperature at 1.8 MPa			Unannealed; ISO 75-2/A

Thermal Properties	Metric	English	Comments
(264 psi)	174 °C	345 °F	
	179 °C	354 °F	Unannealed; ASTM D648
Flammability, UL94	HB @Thickness 3.18 mm	HB @Thickness 0.125 in	UL 94

Electrical Properties	Metric	English	Comments
Volume Resistivity	9.00e+15 ohm-cm	9.00e+15 ohm-cm	ASTM D257
Dielectric Constant	4.0 @Frequency 1.00e+6 Hz	4.0 @Frequency 1.00e+6 Hz	ASTM D150
	4.2 @Frequency 100 Hz	4.2 @Frequency 100 Hz	ASTM D150
Dissipation Factor	0.0060 @Frequency 100 Hz	0.0060 @Frequency 100 Hz	ASTM D150
	0.017 @Frequency 1.00e+6 Hz	0.017 @Frequency 1.00e+6 Hz	ASTM D150
Arc Resistance	125 sec	125 sec	ASTM D495
Comparative Tracking Index	550 V	550 V	UL 746

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	304 - 318 °C	579 - 604 °F	
Front Barrel Temperature	316 - 329 °C	601 - 624 °F	
Melt Temperature	321 - 343 °C	610 - 649 °F	
Mold Temperature	135 °C	275 °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	Lubricant	
	Mold Release	

Descriptive Properties	Value	Comments
Appearance	Black	
	Natural Color	
Automotive Specifications	ASTM D4000 PA127 M40 Color: BK324 Black	
	ASTM D4000 PA127 M40 Color: NT Natural	
	ASTM D6779 PA127M40	
	GM GMP.PPA.001 Color: BK324 Black	
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	North America	
	South America	
Features	Good Chemical Resistance	
	Good Dimensional Stability	
	Low Moisture Absorption	
	Low Warpage	
	Lubricated	
Forms	Pellets	
Generic	PPA	
Processing Method	Injection Molding	
RoHS Compliance	RoHS Compliant	
Uses	Automotive Applications	
	Electrical/Electronic Applications	

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