

Solvay Specialty Polymers Amodel® AF-1145 V0 Polyphthalamide (PPA) Resin, 45% Glass Reinforced, Dry As Molded

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

Material Notes:

AMODEL AF-1145 V0 is a 45% glass reinforced, flame retarded polyphthalamide (PPA) which exhibits a high heat distortion temperature, high tensile strength and flexural modulus. The material is relatively insensitive to moisture which results in good dimensional stability. Therefore, typical humid environmental conditions result in only minor changes in the strength and stiffness. This grade of AMODEL resin can withstand the demanding vapor phase and infrared reflow soldering processes typically used in the electronics industry. It is ideally suited for connectors and electrical devices requiring surface mount technology (SMT). The material offers easy processing using conventional equipment and methods. This product line was acquired by Solvay Advanced Polymers from BP Amoco in November 2001. MatWeb has an entry for this material conditioned at 50% RH.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Amodel-AF-1145-V0-Polyphthalamide-PPA-Resin-45-Glass-Reinforced-Dry-As-Molded-nbsp.php

Physical Properties	Metric	English	Comments
Density	1.81 g/cc	0.0654 lb/in ³	ASTM D792
Water Absorption	0.17 %	0.17 %	24 hrs. ASTM D570
Linear Mold Shrinkage	0.0020 cm/cm	0.0020 in/in	ASTM E831
Linear Mold Shrinkage, Transverse	0.0040 cm/cm	0.0040 in/in	ASTM E831

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	124	124	ASTM D785
Tensile Strength, Ultimate	203 MPa	29400 psi	ASTM D638
Elongation at Break	1.0 %	1.0 %	ASTM D638
Tensile Modulus	18.0 GPa	2610 ksi	ASTM D638
Flexural Yield Strength	283 MPa	41000 psi	ASTM D790
Flexural Modulus	18.0 GPa	2610 ksi	ASTM D790
Izod Impact, Notched	0.640 J/cm	1.20 ft-lb/in	ASTM D256
Izod Impact, Unnotched	6.10 J/cm	11.4 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
Melting Point	310 °C	590 °F	ASTM D3418
Maximum Service Temperature, Air	140 °C	284 °F	UL746B RTI

Thermal Properties	Metric	English	Comments
Deflection Temperature at 1.8 MPa (264 psi)	275 °C	527 °F	ASTM D648
Flammability, UL94	V-0	V-0	
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	V-0	V-0	
	@Thickness 0.800 mm	@Thickness 0.0315 in	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	3.00e+15 ohm-cm	3.00e+15 ohm-cm	ASTM D257
Surface Resistance	2.00e+15 ohm	2.00e+15 ohm	ASTM D257
Dielectric Constant	3.8	3.8	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
	5.2	5.2	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	27.0 kV/mm	686 kV/in	ASTM D149
Dissipation Factor	0.0080	0.0080	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
	0.010	0.010	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
Arc Resistance	>= 300 sec	>= 300 sec	UL 746A
Comparative Tracking Index	550 V	550 V	
Hot Wire Ignition, HWI	>= 150 sec	>= 150 sec	
High Amp Arc Ignition, HAI	74 arcs	74 arcs	
	@Thickness 0.800 mm	@Thickness 0.0315 in	
High Voltage Arc-Tracking Rate, HVTR	16.0 mm/min	0.630 in/min	

Processing Properties	Metric	English	Comments
Melt Temperature	321 - 338 °C	610 - 640 °F	Injection

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