

Solvay Specialty Polymers Amodel® AF-1550 V0 Polyphthalamide (PPA) Resin, 50% Glass/Mineral Reinforced, Dry As Molded &

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

Material Notes:

Data provided by the manufacturer, Amoco Corporation. AMODEL AF-1550 V0 resin is a 50% glass/mineral reinforced, flame retarded polyphthalamide (PPA) that features: high deflection temperature, high tensile strength, high flexural modulus, low warpage, excellent dimensional stability, and low moisture absorption. This grade was designed specifically to be cost effective when high stiffness, good dimensional stability, and superior electrical properties are required. With a comparative tracking index of 450 volts and a deflection temperature of 505°F (263°C), this resin is a potential thermoset replacement in many electrical applications. Potential applications for AMODEL AF-1550 V0 resin include electrical relays, housings, motor starters, contactors, circuit breakers, and terminal blocks. This grade of AMODEL resin can also withstand the demanding vapor phase and infrared reflow soldering processes commonly used in the electronics industry for connectors and devices requiring surface mount technology. 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-1550-V0-Polyphthalamide-PPA-Resin-50-GlassMineral-Reinforced-Dry-As-Molded-.php

Physical Properties	Metric	English	Comments
Density	1.82 g/cc	0.0658 lb/in ³	ASTM D792
Linear Mold Shrinkage	0.0030 cm/cm	0.0030 in/in	ASTM E831
Linear Mold Shrinkage, Transverse	0.0030 cm/cm	0.0030 in/in	ASTM E831

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	145 MPa	21000 psi	ASTM D638
Elongation at Break	1.3 %	1.3 %	ASTM D638
Tensile Modulus	16.5 GPa	2390 ksi	ASTM D638
Flexural Yield Strength	214 MPa	31000 psi	ASTM D790
Flexural Modulus	14.1 GPa	2050 ksi	ASTM D790
Izod Impact, Notched	0.640 J/cm	1.20 ft-lb/in	ASTM D256
Izod Impact, Unnotched	3.86 J/cm	7.23 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
Melting Point	310 °C	590 °F	ASTM D3418
Deflection Temperature at 1.8 MPa (264 psi)	263 °C	505 °F	ASTM D648

Thermal Properties	Metric	English	Comments
Flammability, UL94	@Thickness 1.60 mm	@Thickness 0.0630 in	
	V-0	V-0	
	@Thickness 1.60 mm	@Thickness 0.0630 in	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	4.00e+15 ohm-cm	4.00e+15 ohm-cm	ASTM D257
Surface Resistance	1.00e+15 ohm	1.00e+15 ohm	ASTM D257
Dielectric Constant	4.3	4.3	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	4.3	4.3	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	25.8 kV/mm	655 kV/in	ASTM D149
Dissipation Factor	0.0050	0.0050	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
Dissipation Factor	0.012	0.012	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Arc Resistance	>= 300 sec	>= 300 sec	UL 746A
Comparative Tracking Index	450 V	450 V	
Hot Wire Ignition, HWI	>= 150 sec	>= 150 sec	
High Amp Arc Ignition, HAI	69 arcs	69 arcs	
	@Thickness 0.800 mm	@Thickness 0.0315 in	
High Voltage Arc-Tracking Rate, HVTR	4.00 mm/min	0.157 in/min	

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

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