

Solvay Specialty Polymers Amodel® A-1240 HS Polyphthalamide (PPA) Resin, 40% Mineral Reinforced, Dry As Molded & nbs

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

Material Notes:

AMODEL A-1240 polyphthalamide (PPA) resins are 40% mineral filled resins that have high deflection temperature, flexural modulus, and tensile strength. They mold with low warpage, have excellent dimensional stability and low moisture absorption. There are two versions of AMODEL A-1240 resin, "L" and "HS". The L version will usually provide the smoother, higher gloss surface, while the HS version gives better long-term thermal aging properties. Both AMODEL A-1240 resins can be easily processed 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-A-1240-HS-Polyphthalamide-PPA-Resin-40-Mineral-Reinforced-Dry-As-Molded-nbs.php

Physical Properties	Metric	English	Comments
Density	1.53 g/cc	0.0553 lb/in ³	ASTM D792
Water Absorption	0.14 %	0.14 %	24 hrs. ASTM D570
Linear Mold Shrinkage	0.010 cm/cm	0.010 in/in	ASTM E831
Linear Mold Shrinkage, Transverse	0.010 cm/cm	0.010 in/in	ASTM E831

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	125	125	ASTM D785
Tensile Strength, Ultimate	110 MPa	16000 psi	ASTM D638
Elongation at Break	1.6 %	1.6 %	ASTM D638
Tensile Modulus	9.00 GPa	1310 ksi	ASTM D638
Flexural Yield Strength	207 MPa	30000 psi	ASTM D790
Flexural Modulus	7.60 GPa	1100 ksi	ASTM D790
Poissons Ratio	0.29	0.29	
Shear Modulus	3.49 GPa	506 ksi	Calculated
Shear Strength	96.0 MPa	13900 psi	ASTM D732
Izod Impact, Notched	0.480 J/cm	0.899 ft-lb/in	ASTM D256
Izod Impact, Unnotched	5.30 J/cm	9.93 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	34.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	18.9 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	FD; ASTM E831
	@Temperature 0.000 - 100 $^\circ\text{C}$	@Temperature 32.0 - 212 $^\circ\text{F}$	
	79.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	43.9 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	FD; ASTM E831
	@Temperature 160 - 250 $^\circ\text{C}$	@Temperature 320 - 482 $^\circ\text{F}$	
	95.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	52.8 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	TD; ASTM E831
	@Temperature 160 - 250 $^\circ\text{C}$	@Temperature 320 - 482 $^\circ\text{F}$	
CTE, linear, Transverse to Flow	40.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	22.2 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ASTM E381
	@Temperature 0.000 - 100 $^\circ\text{C}$	@Temperature 32.0 - 212 $^\circ\text{F}$	
Melting Point	310 $^\circ\text{C}$	590 $^\circ\text{F}$	ASTM D3418
Maximum Service Temperature, Air	140 $^\circ\text{C}$	284 $^\circ\text{F}$	20,000 hours continuous use; ASTM D3045
Deflection Temperature at 0.46 MPa (66 psi)	260 $^\circ\text{C}$	500 $^\circ\text{F}$	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	154 $^\circ\text{C}$	309 $^\circ\text{F}$	ASTM D648
Flammability, UL94	HB	HB	
	@Thickness 3.20 mm	@Thickness 0.126 in	
	HB	HB	
	@Thickness 3.20 mm	@Thickness 0.126 in	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	9.00e+15 ohm-cm	9.00e+15 ohm-cm	ASTM D257
Dielectric Constant	4.0	4.0	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
	4.2	4.2	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
Dissipation Factor	0.0060	0.0060	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.017	0.017	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	550 V	550 V	

Processing Properties	Metric	English	Comments
Melt Temperature	321 - 343 °C	610 - 649 °F	Injection

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