

Solvay Specialty Polymers Amodel® A-1340 HS Polyphthalamide (PPA) Resin, 40% Mineral/Glass Reinforced, Dry as Molded &

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

Material Notes:

AMODEL® A-1340 HS is a 40% mineral/glass reinforced, heat stabilized polyphthalamide (PPA) which exhibits a high deflection temperature, high flexural modulus, high tensile strength and low warpage. Excellent dimensional stability and low moisture absorption are also characteristics of this resin. AMODEL A-1340 HS resin can be easily processed using conventional equipment and methods. Information provided by Solvay Advanced Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Amodel-A-1340-HS-Polyphthalamide-PPA-Resin-40-MineralGlass-Reinforced-Dry-as-Molded-a.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.48 g/cc	1.48 g/cc	ISO 1183A
	1.54 g/cc	1.54 g/cc	ASTM D792
Moisture Absorption at Equilibrium	0.16 %	0.16 %	24 hours; ASTM D570

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	125	125	ASTM D785
Tensile Strength, Yield	151 MPa	21900 psi	ISO 527
	174 MPa	25200 psi	ASTM D638
	46.0 MPa	6670 psi	ISO 527
	@Temperature 175 °C	@Temperature 347 °F	
	49.0 MPa	7110 psi	ISO 527
	@Temperature 150 °C	@Temperature 302 °F	
	97.0 MPa	14100 psi	ISO 527
	@Temperature 100 °C	@Temperature 212 °F	
Elongation at Break	1.8 %	1.8 %	ISO 527
	2.3 %	2.3 %	ISO 527
	@Temperature 100 °C	@Temperature 212 °F	
	7.0 %	7.0 %	ISO 527
	@Temperature 175 °C	@Temperature 347 °F	
	7.4 %	7.4 %	ISO 527

Mechanical Properties	@Temperature 150 °C Metric	@Temperature 302 °F English	Comments
Elongation at Yield	2.2 %	2.2 %	ASTM D638
Tensile Modulus	11.0 GPa	1600 ksi	ASTM D638
	11.6 GPa	1680 ksi	ISO 527
	2.70 GPa	392 ksi	ISO 527
	@Temperature 175 °C	@Temperature 347 °F	
	3.10 GPa	450 ksi	ISO 527
	@Temperature 150 °C	@Temperature 302 °F	
	8.00 GPa	1160 ksi	ISO 527
	@Temperature 100 °C	@Temperature 212 °F	
Flexural Strength	234 MPa	33900 psi	ISO 178
	263 MPa	38100 psi	ASTM D790
	55.0 MPa	7980 psi	ISO 178
	@Temperature 175 °C	@Temperature 347 °F	
	63.0 MPa	9140 psi	ISO 178
	@Temperature 150 °C	@Temperature 302 °F	
	155 MPa	22500 psi	ISO 178
	@Temperature 100 °C	@Temperature 212 °F	
Flexural Modulus	9.10 GPa	1320 ksi	ISO 178
	10.6 GPa	1540 ksi	ASTM D790
	2.30 GPa	334 ksi	ISO 178
	@Temperature 175 °C	@Temperature 347 °F	
	2.50 GPa	363 ksi	ISO 178
	@Temperature 150 °C	@Temperature 302 °F	
	6.80 GPa	986 ksi	ISO 178
	@Temperature 100 °C	@Temperature 212 °F	
Poissons Ratio	0.38	0.38	
Shear Modulus	3.99 - 4.20 GPa	579 - 609 ksi	Calculated
Shear Strength	91.0 MPa	13200 psi	ASTM D732
Izod Impact, Notched	0.450 J/cm	0.843 ft-lb/in	ASTM D256

Mechanical Properties	Metric	English	Comments
Izod Impact, Unnotched (ISO)	31.0 kJ/m ²	14.8 ft-lb/in ²	ISO 180/1U
Charpy Impact Unnotched	4.50 J/cm ²	21.4 ft-lb/in ²	ISO 179/1eU
Charpy Impact, Notched	0.330 J/cm ²	1.57 ft-lb/in ²	ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	19.0 µm/m-°C	10.6 µin/in-°F	
	@Temperature 160 - 250 °C	@Temperature 320 - 482 °F	
	29.0 µm/m-°C	16.1 µin/in-°F	
	@Temperature 0.000 - 100 °C	@Temperature 32.0 - 212 °F	
CTE, linear, Transverse to Flow	46.0 µm/m-°C	25.6 µin/in-°F	
	@Temperature 0.000 - 100 °C	@Temperature 32.0 - 212 °F	
	92.0 µm/m-°C	51.1 µin/in-°F	
	@Temperature 160 - 250 °C	@Temperature 320 - 482 °F	
Melting Point	313 °C	595 °F	ISO 11357-3
	313 °C	595 °F	ASTM D3418
Maximum Service Temperature, Air	130 °C	266 °F	20000 hours, Continuous; ASTM D3045
	150 °C	302 °F	5000 hours, Continuous; ASTM D3045
Deflection Temperature at 0.46 MPa (66 psi)	290 °C	554 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	262 °C	504 °F	ISO 75Af
	275 °C	527 °F	ASTM D648
Flammability, UL94	HB	HB	

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.00e+15 ohm-cm	2.00e+15 ohm-cm	ASTM D257
	1.00e+16 ohm-cm	1.00e+16 ohm-cm	ASTM D257
	4.3	4.3	

Dielectric Constant Electrical Properties	Metric @Frequency 1e+6 Hz	English @Frequency 1e+6 Hz	ASTM D150 Comments
	4.5	4.5	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
Dissipation Factor	0.0050	0.0050	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.017	0.017	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
High Voltage Arc Resistance to Ignition (HVAR)	150 sec	150 sec	ASTM D495
Comparative Tracking Index	550 V	550 V	ASTM D3638

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