

Solvay Specialty Polymers AvaSpire® AV-750 GF40 Polyaryletherketone (PAEK), 40% Glass Fiber

Category : Polymer , Thermoplastic , Polyketone , Polyaryletherketone (PAEK), Glass Fiber Filled

Material Notes:

AvaSpire® AV-750 GF40 is a 40% glass reinforced polyaryletherketone (PAEK) designed to fill the marketplace need for a lower-priced PEEK (polyetheretherketone). This resin provides the typical chemical resistance expected of PEEK while maintaining excellent elevated temperature properties. Features: Flame Retardant; Good Chemical Resistance; Good Dimensional Stability; High Heat Resistance; High Stiffness; High Strength. Uses: Aircraft Applications; Electrical/Electronic Applications; Metal Replacement; Seals. Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-AvaSpire-AV-750-GF40-Polyaryletherketone-PAEK-40-Glass-Fiber.php

Physical Properties	Metric	English	Comments
Density	1.65 g/cc	0.0596 lb/in ³	ASTM D792
Filler Content	40 %	40 %	Glass Fiber
Water Absorption	0.10 % @Time 86400 sec	0.10 % @Time 24.0 hour	ISO 62
Viscosity	450000 cP @Shear Rate 1000 1/s, Temperature 400 °C	450000 cP @Shear Rate 1000 1/s, Temperature 752 °F	Melt Viscosity; ASTM D3835
Linear Mold Shrinkage, Flow	0.0010 - 0.0030 cm/cm @Thickness 3.18 mm	0.0010 - 0.0030 in/in @Thickness 0.125 in	
Linear Mold Shrinkage, Transverse	0.012 - 0.014 cm/cm @Thickness 3.18 mm	0.012 - 0.014 in/in @Thickness 0.125 in	ASTM D955
Melt Flow	7.0 g/10 min @Load 2.16 kg, Temperature 380 °C	7.0 g/10 min @Load 4.76 lb, Temperature 716 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	105	105	ASTM D785
Tensile Strength	191 MPa	27700 psi	50 mm/min; ASTM D638
Tensile Strength, Yield	188 MPa @Thickness 5.00 mm	27300 psi @Thickness 0.197 in	5 mm/min, Type 1A; ISO 527-2
Elongation at Break	1.8 %	1.8 %	Type 1A, 5 mm/min; ISO 527-2

Mechanical Properties	1.8% Metric	1.8% English	5 mm/min: ASTM D638 Comments
Tensile Modulus	15.1 GPa	2190 ksi	5 mm/min; ASTM D638
	16.7 GPa	2420 ksi	1 mm/min, Type 1A; ISO 527-2
Flexural Strength	250 MPa	36300 psi	ISO 178
	54.0 MPa @Temperature 250 Â°C	7830 psi @Temperature 482 Â°F	ASTM D790
	253 MPa @Temperature 23.0 Â°C	36700 psi @Temperature 73.4 Â°F	ASTM D790
Flexural Modulus	14.8 GPa	2150 ksi	ASTM D790
	15.4 GPa	2230 ksi	ISO 178
Compressive Strength	182 MPa	26400 psi	ASTM D695
Shear Strength	89.0 MPa	12900 psi	ASTM D732
Izod Impact, Notched	0.530 J/cm	0.993 ft-lb/in	ASTM D256
Izod Impact, Unnotched	5.90 J/cm	11.1 ft-lb/in	ASTM D256
Izod Impact, Notched (ISO)	8.50 kJ/mÂ²	4.04 ft-lb/inÂ²	ISO 180
Izod Impact, Unnotched (ISO)	41.0 kJ/mÂ²	19.5 ft-lb/inÂ²	ISO 180

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	15.0 Âµm/m-Â°C @Temperature -50.0 - 50.0 Â°C	8.33 Âµin/in-Â°F @Temperature -58.0 - 122 Â°F	1
Specific Heat Capacity	1.26 J/g-Â°C @Temperature 50.0 Â°C	0.301 BTU/lb-Â°F @Temperature 122 Â°F	ASTM C351
	1.62 J/g-Â°C @Temperature 200 Â°C	0.387 BTU/lb-Â°F @Temperature 392 Â°F	ASTM C351
Thermal Conductivity	0.310 W/m-K	2.15 BTU-in/hr-ftÂ²- Â°F	ASTM C177
Melting Point	345 Â°C	653 Â°F	ASTM D3418
Deflection Temperature at 1.8 MPa (264 psi)	285 Â°C	545 Â°F	Annealed; ASTM D648
Glass Transition Temp, Tg	150 Â°C	302 Â°F	DSC

Thermal Properties	Metric	English	Comments
Flammability, UL94	@Thickness 0.800 mm	@Thickness 0.0315 in	
	V-0	V-0	
	@Thickness 1.60 mm	@Thickness 0.0630 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.80e+17 ohm-cm	1.80e+17 ohm-cm	ASTM D257
Surface Resistance	>= 1.90e+17 ohm	>= 1.90e+17 ohm	ASTM D257
Dielectric Constant	3.66	3.66	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.68	3.68	
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	ASTM D150
	3.69	3.69	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Strength	19.0 kV/mm	483 kV/in	ASTM D149
Dissipation Factor	0.0010	0.0010	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.0020	0.0020	
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	ASTM D150
	0.0030	0.0030	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Processing Properties	Metric	English	Comments
Melt Temperature	370 - 395 Â°C	698 - 743 Â°F	
Mold Temperature	175 - 210 Â°C	347 - 410 Â°F	
Drying Temperature	150 - 175 Â°C	302 - 347 Â°F	
	@Time 9000 - 14400 sec	@Time 2.50 - 4.00 hour	
Back Pressure	0.138 - 0.345 MPa	20.0 - 50.0 psi	
Screw Speed	75 rpm	75 rpm	

Descriptive Properties	Value	Comments
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	Latin America	
	North America	
Color	Natural	
Form	Pellets	
Processing Technique	Injection Molding; Machining; Profile Extrusion	
RoHS Compliance	RoHS Compliant	
Screw Compression Ratio	2.0:1.0	

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