

Solvay Specialty Polymers AvaSpire® AV-848 GF30 Polyaryletherketone (PAEK), 30% Glass Fiber

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

Material Notes:

AvaSpire® AV-848 GF30 is a 30% glass fiber-reinforced, high-temperature, polyaryletherketone (PAEK) that has been specifically formulated to provide several performance advantages over comparable grades of reinforced PEEK. These include improved dimensional stability, higher stiffness and lower CLTE from 150°C to 240°C, and lower modulus for greater flexibility at room temperature. Features: Fatigue Resistant; Flame Retardant; Good Chemical Resistance; Good Dimensional Stability; High Heat Resistance; High Stiffness; High Strength Uses: Oil/Gas Applications; Seals Injection Molding Notes: Back Pressure: Minimum Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-AvaSpire-AV-848-GF30-Polyaryletherketone-PAEK-30-Glass-Fiber.php

Physical Properties	Metric	English	Comments
Density	1.53 g/cc	0.0553 lb/in ³	ASTM D792
Filler Content	30 %	30 %	Glass Fiber
Water Absorption	0.10 % @Time 86400 sec	0.10 % @Time 24.0 hour	ISO 62
Viscosity	60000 cP @Shear Rate 1000 1/s, Temperature 400 °C	60000 cP @Shear Rate 1000 1/s, Temperature 752 °F	Melt Viscosity; ASTM D3835
Linear Mold Shrinkage, Flow	0.0020 - 0.0040 cm/cm @Thickness 3.18 mm	0.0020 - 0.0040 in/in @Thickness 0.125 in	
Linear Mold Shrinkage, Transverse	0.0050 - 0.0070 cm/cm @Thickness 3.18 mm	0.0050 - 0.0070 in/in @Thickness 0.125 in	ASTM D955
Melt Flow	9.0 g/10 min @Load 2.16 kg, Temperature 400 °C	9.0 g/10 min @Load 4.76 lb, Temperature 752 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Tensile Strength	168 MPa	24400 psi	5 mm/min; ASTM D638
Elongation at Break	2.3 %	2.3 %	5 mm/min; ASTM D638
Tensile Modulus	10.6 GPa	1540 ksi	ASTM D638
Flexural Strength	239 MPa	34700 psi	ASTM D790

Flexural Modulus Mechanical Properties	9.90 GPa Metric	1440 ksi English	ASTM D790 Comments
Compressive Strength	139 MPa	20200 psi	ASTM D695
Shear Strength	84.8 MPa	12300 psi	ASTM D732
Izod Impact, Notched	0.690 J/cm	1.29 ft-lb/in	ASTM D256
Izod Impact, Unnotched	9.60 J/cm	18.0 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
Specific Heat Capacity	1.30 J/g-Â°C	0.311 BTU/lb-Â°F	ASTM C351
	@Temperature 50.0 Â°C	@Temperature 122 Â°F	
	1.70 J/g-Â°C	0.406 BTU/lb-Â°F	ASTM C351
	@Temperature 200 Â°C	@Temperature 392 Â°F	
Thermal Conductivity	0.290 W/m-K	2.01 BTU-in/hr-ftÂ²-Â°F	ASTM C177
Melting Point	340 Â°C	644 Â°F	ASTM D3418
Deflection Temperature at 1.8 MPa (264 psi)	257 Â°C	495 Â°F	Annealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Glass Transition Temp, Tg	158 Â°C	316 Â°F	DSC

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	3.69	3.69	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.74	3.74	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
Dielectric Strength	18.0 kV/mm	457 kV/in	ASTM D149
	@Thickness 3.00 mm	@Thickness 0.118 in	
Dissipation Factor	0.0020	0.0020	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
	0.0060	0.0060	ASTM D150

Electrical Properties	Metric	English	Comments
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Processing Properties	Metric	English	Comments
Rear Barrel Temperature	366 Â°C	691 Â°F	
Middle Barrel Temperature	371 Â°C	700 Â°F	
Front Barrel Temperature	377 Â°C	711 Â°F	
Nozzle Temperature	382 Â°C	720 Â°F	
Melt Temperature	382 - 404 Â°C	720 - 759 Â°F	
Mold Temperature	166 - 193 Â°C	331 - 379 Â°F	
Drying Temperature	149 Â°C	300 Â°F	
	@Time 14400 sec	@Time 4.00 hour	

Descriptive Properties	Value	Comments
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	Latin America	
	North America	
Color	Natural	
Form	Pellets	
Injection Rate	Fast	
Processing Technique	Injection Molding; Machining; Profile Extrusion	
Screw Compression Ratio	2.0:1.0 to 3.0:1.0	

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