

Solvay Specialty Polymers AvaSpire® AV-848 Polyaryletherketone (PAEK)

Category : Polymer , Thermoplastic , Polyketone

Material Notes:

AvaSpire® AV-848 is a high-temperature, polyaryletherketone (PAEK) that offers several key performance advantages over comparable grades of PEEK above 150°C, including better dimensional stability, lower CLTE from 150°C to 240°C, and lower modulus for greater flexibility at room temperature. Features: Ductile; Fatigue Resistant; Flame Retardant; Good Chemical Resistance; Good Dimensional Stability; Good Impact Resistance; High Heat Resistance. 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-Polyaryletherketone-PAEK.php

Physical Properties	Metric	English	Comments
Density	1.32 g/cc	0.0477 lb/in ³	ASTM D792
Water Absorption	0.50 %	0.50 %	ISO 62
	@Time 86400 sec	@Time 24.0 hour	
Viscosity	500000 cP	500000 cP	Melt Viscosity; ASTM D3835

Mechanical Properties	Metric	English	Comments
Tensile Strength	94.0 MPa	13600 psi	50 mm/min; ASTM D638
Elongation at Break	35 %	35 %	50 mm/min; ASTM D638
	75 %	75 %	
Elongation at Yield	6.7 %	6.7 %	50 mm/min; ASTM D638
Tensile Modulus	3.10 GPa	450 ksi	50 mm/min; ASTM D638
Flexural Strength	134 MPa	19400 psi	ASTM D790
Flexural Modulus	3.30 GPa	479 ksi	ASTM D790
Compressive Strength	118 MPa	17100 psi	ASTM D695
Shear Strength	82.0 MPa	11900 psi	ASTM D732
Izod Impact, Notched	0.750 J/cm	1.41 ft-lb/in	ASTM D256
Izod Impact, Unnotched	NB	NB	ASTM D256

Thermal Properties	Metric	English	Comments
Specific Heat Capacity	1.65 J/g-°C	0.394 BTU/lb-°F	ASTM C351

Thermal Properties	Metric @Temperature 50.0 °C	English @Temperature 122 °F	Comments
	1.66 J/g-°C	0.397 BTU/lb-°F	ASTM C351
	@Temperature 200 °C	@Temperature 392 °F	
Thermal Conductivity	0.220 W/m-K	1.53 BTU-in/hr-ft²- °F	ASTM C177
Melting Point	340 °C	644 °F	ASTM D3418
Deflection Temperature at 1.8 MPa (264 psi)	252 °C	486 °F	Annealed; ASTM D648
Glass Transition Temp, Tg	158 °C	316 °F	DSC

Electrical Properties	Metric	English	Comments
Dielectric Constant	3.18	3.18	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.21	3.21	
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	ASTM D150
Dielectric Strength	3.23	3.23	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	180 kV/mm	4570 kV/in	
	@Thickness 0.0500 mm	@Thickness 0.00197 in	Amorphous Film; 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
	0.0060	0.0060	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	366 °C	691 °F	
Middle Barrel Temperature	371 °C	700 °F	
Front Barrel Temperature	377 °C	711 °F	
Nozzle Temperature	382 °C	720 °F	

Processing Properties	Metric	English	Comments
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 @Time 14400 sec	300 Â°F @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	Extrusion Blow Molding	
	Fiber (Spinning) Extrusion; Film Extrusion	
	Injection Blow Molding; Injection Molding	
	Machining; Profile Extrusion	
	Thermoforming; Wire & Cable Extrusion	
Screw Compression Ratio	2.0:1.0 to 3.0:1.0	

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