

Solvay Specialty Polymers AvaSpire® AV-722 CF30 Polyaryletherketone (PAEK), 30% Carbon Fiber

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

Material Notes:

AvaSpire® AV-722 CF30 is a 30% carbon fiber reinforced version of AvaSpire® AV-722. This formulation offers improved part economics relative to 30% carbon fiber reinforced PEEK while retaining most of the desirable high performance attributes of carbon fiber reinforced PEEK. Those attributes include chemical resistance, fatigue resistance, and long term thermal oxidative stability. Features: Flame Retardant; Good Chemical Resistance; Good Dimensional Stability; High Heat Resistance; High Stiffness; High Strength. Uses: Automotive Applications; Gears; Industrial Applications. 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-722-CF30-Polyaryletherketone-PAEK-30-Carbon-Fiber.php

Physical Properties	Metric	English	Comments
Density	1.42 g/cc	0.0513 lb/in ³	ASTM D792
Filler Content	30 %	30 %	Carbon Fiber
Water Absorption	0.10 % @Time 86400 sec	0.10 % @Time 24.0 hour	ISO 62
Viscosity	470000 cP @Shear Rate 1000 1/s, Temperature 400 Å°C	470000 cP @Shear Rate 1000 1/s, Temperature 752 Å°F	Melt Viscosity; ASTM D3835
Linear Mold Shrinkage, Flow	0.00 - 0.0020 cm/cm @Thickness 3.18 mm	0.00 - 0.0020 in/in @Thickness 0.125 in	
Linear Mold Shrinkage, Transverse	0.014 - 0.016 cm/cm @Thickness 3.18 mm	0.014 - 0.016 in/in @Thickness 0.125 in	ASTM D955
Melt Flow	0.80 g/10 min @Load 2.16 kg, Temperature 400 Å°C	0.80 g/10 min @Load 4.76 lb, Temperature 752 Å°F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	107	107	ASTM D785
Tensile Strength	200 MPa	29000 psi	5 mm/min; ASTM D638
Tensile Strength, Yield	224 MPa	32500 psi	5 mm/min, Type 1A; ISO 527-2
Elongation at Break	1.5 %	1.5 %	Type 1A, 5 mm/min; ISO 527-2

Mechanical Properties	Metric	English	Comments <small>ASTM D638</small>
Tensile Modulus	22.0 GPa	3190 ksi	5 mm/min; ASTM D638
	26.6 GPa	3860 ksi	1 mm/min, Type 1A; ISO 527-2
Flexural Strength	304 MPa	44100 psi	ASTM D790
	334 MPa	48400 psi	ISO 178
Flexural Modulus	19.3 GPa	2800 ksi	ASTM D790
	25.0 GPa	3630 ksi	ISO 178
Compressive Strength	170 MPa	24700 psi	ASTM D695
Poissons Ratio	0.44	0.44	ASTM E132
Shear Strength	98.0 MPa	14200 psi	ASTM D732
Izod Impact, Notched	0.530 J/cm	0.993 ft-lb/in	ASTM D256
Izod Impact, Unnotched	5.30 J/cm	9.93 ft-lb/in	ASTM D256
Izod Impact, Notched (ISO)	8.50 kJ/m ²	4.04 ft-lb/in ²	ISO 180
Izod Impact, Unnotched (ISO)	39.0 kJ/m ²	18.6 ft-lb/in ²	ISO 180

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	6.00 Åµm/m-Å°C	3.33 Åµin/in-Å°F	1
	@Temperature -50.0 - 50.0 Å°C	@Temperature -58.0 - 122 Å°F	
Specific Heat Capacity	1.28 J/g-Å°C	0.306 BTU/lb-Å°F	ASTM C351
	@Temperature 50.0 Å°C	@Temperature 122 Å°F	
Thermal Conductivity	1.74 J/g-Å°C	0.416 BTU/lb-Å°F	ASTM C351
	@Temperature 200 Å°C	@Temperature 392 Å°F	
Melting Point	340 Å°C	644 Å°F	ASTM D3418
Deflection Temperature at 1.8 MPa (264 psi)	276 Å°C	529 Å°F	Annealed; ASTM D648
Glass Transition Temp, Tg	150 Å°C	302 Å°F	DSC

Processing Properties	Metric	English	Comments
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Processing Properties ^{re}	Metric ^{re}	English	Comments
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	
Mold Temperature	177 - 204 Â°C	351 - 399 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	Black	
Form	Pellets	
Injection Rate	Fast	
Processing Technique	Injection Molding; Machining; Profile Extrusion	
Screw Compression Ratio	2.5:1.0 to 3.5:1.0	

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