

Solvay Specialty Polymers KetaSpire[®] KT-880 CF30 Polyetheretherketone (PEEK), 30% Carbon Fiber

Category : Polymer , Thermoplastic , Polyketone , Polyetheretherketone (PEEK) , Polyetheretherketone, PEEK, Carbon Fiber Filled

Material Notes:

KetaSpire[®] KT-880 CF30 is a high flow, 30% carbon fiber reinforced grade of polyetheretherketone (PEEK). Carbon-fiber reinforcement of KetaSpire[®] PEEK provides the maximum levels of mechanical properties at temperatures approaching 300[°]C and the lowest coefficient of linear thermal expansion within the KetaSpire[®] product family. Features: Autoclave Sterilizable; E-beam Sterilizable; Ethylene Oxide Sterilizable; Fatigue Resistant; Flame Retardant; Good Chemical Resistance; Good Dimensional Stability; Good Sterilizability; Heat Sterilizable; High Flow; High Heat Resistance; High Stiffness; High Strength; Radiation (Gamma) Resistant; Radiation Sterilizable; Radiotranslucent; Steam Resistant; Steam Sterilizable. Uses: Aircraft Applications; Connectors; Dental Applications; Electrical/Electronic Applications; Film; Hospital Goods; Industrial Applications; Medical Devices; Medical/Healthcare Applications; Oil/Gas Applications; Pump Parts; Seals; Surgical Instruments. Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-KetaSpire-KT-880-CF30-Polyetheretherketone-PEEK-30-Carbon-Fiber.php

Physical Properties	Metric	English	Comments
Density	1.41 g/cc	0.0509 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	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	0.00 - 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	11 g/10 min @Load 2.16 kg, Temperature 400 [°] C	11 g/10 min @Load 4.76 lb, Temperature 752 [°] F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	106	106	ASTM D785
Tensile Strength	223 MPa	32300 psi	ASTM D638

Tensile Strength, Yield Mechanical Properties	218 MPa Metric	31600 psi English	5 mm/min, Type 1A; ISO 527-2 Comments
Elongation at Break	1.7 %	1.7 %	Type 1A, 5 mm/min; ISO 527-2
	1.7 %	1.7 %	5 mm/min; ASTM D638
Tensile Modulus	20.9 GPa	3030 ksi	ASTM D638
	25.4 GPa	3680 ksi	1 mm/min, Type 1A; ISO 527-2
Flexural Strength	319 MPa	46300 psi	ISO 178
	321 MPa	46600 psi	ASTM D790
Flexural Modulus	17.9 GPa	2600 ksi	ASTM D790
	21.5 GPa	3120 ksi	ISO 178
Compressive Strength	188 MPa	27300 psi	ASTM D695
Shear Strength	103 MPa	14900 psi	ASTM D732
Izod Impact, Notched	0.640 J/cm	1.20 ft-lb/in	ASTM D256
Izod Impact, Unnotched	6.40 J/cm	12.0 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)	43.0 kJ/m ²	20.5 ft-lb/in ²	ISO 180

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	6.70 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ @Temperature -50.0 - 50.0 $\text{Å}^\circ\text{C}$	3.72 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ @Temperature -58.0 - 122 $\text{Å}^\circ\text{F}$	1
Specific Heat Capacity	1.31 J/g- $\text{Å}^\circ\text{C}$ @Temperature 50.0 $\text{Å}^\circ\text{C}$	0.313 BTU/lb- $\text{Å}^\circ\text{F}$ @Temperature 122 $\text{Å}^\circ\text{F}$	ASTM C351
	1.81 J/g- $\text{Å}^\circ\text{C}$ @Temperature 200 $\text{Å}^\circ\text{C}$	0.433 BTU/lb- $\text{Å}^\circ\text{F}$ @Temperature 392 $\text{Å}^\circ\text{F}$	ASTM C351
Thermal Conductivity	0.370 W/m-K	2.57 BTU-in/hr-ft Å^2 - $\text{Å}^\circ\text{F}$	ASTM C177
Melting Point	343 $\text{Å}^\circ\text{C}$	649 $\text{Å}^\circ\text{F}$	ASTM D3418
Deflection Temperature at 1.8 MPa (264 psi)	315 $\text{Å}^\circ\text{C}$	599 $\text{Å}^\circ\text{F}$	Annealed; ASTM D648
Glass Transition Temp, Tg	147 $\text{Å}^\circ\text{C}$	297 $\text{Å}^\circ\text{F}$	DSC
	V-0	V-0	

Thermal Properties	Metric	English	Comments
	@ Thickness 0.800 - 1.60 mm	@ Thickness 0.0315 - 0.0630 in	

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	365 Â°C	689 Â°F	
Middle Barrel Temperature	370 Â°C	698 Â°F	
Front Barrel Temperature	375 Â°C	707 Â°F	
Nozzle Temperature	380 Â°C	716 Â°F	
Mold Temperature	175 - 205 Â°C	347 - 401 Â°F	
Drying Temperature	150 Â°C @Time 14400 sec	302 Â°F @Time 4.00 hour	

Descriptive Properties	Value	Comments
Agency Ratings	FAA FAR 25.853a	
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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