

Solvay Specialty Polymers KetaSpire® KT-880 CF30 Polyetheretherketone (PEEK) (Unverified Data**)

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. KetaSpire PEEK is produced to the highest industry standards and is characterized by a distinct combination of properties, which include excellent wear resistance, best-in-class fatigue resistance, ease of melt processing, high purity and excellent chemical resistance to organics, acids and bases. These properties make it well-suited for applications in healthcare, transportation, electronics, chemical processing and other industrial uses. 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-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.41 g/cc	1.41 g/cc	ASTM D792
Filler Content	30 %	30 %	Carbon Fiber Reinforcement
Water Absorption	0.10 % @Time 86400 sec	0.10 % @Time 24.0 hour	ASTM D570
Viscosity	450000 cP @Shear Rate 1000 1/s, Temperature 400 °C	450000 cP @Shear Rate 1000 1/s, Temperature 752 °F	Melt; 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	5" x 0.5" x 0.125" bars; ASTM D955
Linear Mold Shrinkage, Transverse	0.014 - 0.016 cm/cm @Thickness 3.18 mm	0.014 - 0.016 in/in @Thickness 0.125 in	5" x 0.5" x 0.125" bars; 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	M-Scale; ASTM D785
Tensile Strength	223 MPa	32300 psi	ASTM D638
Tensile Strength, Yield	218 MPa	31600 psi	ISO 527-2/1A/5

Elongation at Break Mechanical Properties	1.7% Metric	1.7% English	5.0 mm/min; ASTM D638 Comments
	1.7 %	1.7 %	ISO 527-2/1A/5
Tensile Modulus	20.9 GPa	3030 ksi	ASTM D638
	25.4 GPa	3680 ksi	ISO 527-2/1A/1
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
	6.40 J/cm	12.0 ft-lb/in	ASTM D4812
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 $\mu\text{m}/\text{m}\cdot\text{°C}$ @Temperature -50.0 - 50.0 °C	3.72 $\mu\text{in}/\text{in}\cdot\text{°F}$ @Temperature -58.0 - 122 °F	TMA; ASTM E831
Specific Heat Capacity	1.31 J/g- °C @Temperature 50.0 °C	0.313 BTU/lb- °F @Temperature 122 °F	DSC
	1.81 J/g- °C @Temperature 200 °C	0.433 BTU/lb- °F @Temperature 392 °F	DSC
Thermal Conductivity	0.370 W/m-K	2.57 BTU-in/hr-ft ² - °F	ASTM C177
Melting Point	343 °C	649 °F	Peak; ASTM D3418
Deflection Temperature at 1.8 MPa (264 psi)	315 °C	599 °F	Annealed; ASTM D648
Glass Transition Temp, Tg	147 °C	297 °F	ASTM D3418
Flammability, UL94	V-0 @Thickness 0.800 mm	V-0 @Thickness 0.0315 in	UL 94
	V-0	V-0	

Thermal Properties	Metric @ Thickness 1.60 mm	English @ Thickness 0.0630 in	UJ 94 Comments
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Processing Properties	Metric	English	Comments
Rear Barrel Temperature	365 °C	689 °F	
Middle Barrel Temperature	370 °C	698 °F	
Front Barrel Temperature	375 °C	707 °F	
Nozzle Temperature	380 °C	716 °F	
Mold Temperature	175 - 205 °C	347 - 401 °F	
Drying Temperature	150 °C	302 °F	
Dry Time	4.00 hour	4.00 hour	

Descriptive Properties	Value	Comments
Appearance	Black	
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	North America	
	South America	
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	

Descriptive Properties	Value/ stiffness	Comments
	High Strength	
	Radiation (Gamma) Resistant	
	Radiation Sterilizable	
	Radiotranslucent	
	Steam Resistant	
	Steam Sterilizable	
Forms	Pellets	
Generic	PEEK	
Injection Rate	Fast	
Processing Method	Injection Molding	
	Machining	
	Profile Extrusion	
Screw Compression Ratio	2.5:1.0 to 3.5:1.0	
Uses	Aircraft Applications	
	Connectors	
	Dental Applications	
	Electrical/Electronic Applications	
	Film	
	Hospital Goods	
	Industrial Applications	
	Medical Appliances	
	Medical/Healthcare Applications	
	Oil/Gas Applications	
	Pump Parts	
	Seals	
	Surgical Instruments	

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