

Solvay Specialty Polymers KetaSpire® KT-820 CF30 Polyetheretherketone (PEEK) (Unverified Data**)

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

Material Notes:

KetaSpire KT-820 CF30 is the low-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-820-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	920000 cP @Shear Rate 1000 1/s, Temperature 400 °C	920000 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	0.015 - 0.017 cm/cm @Thickness 3.18 mm	0.015 - 0.017 in/in @Thickness 0.125 in	5" x 0.5" x 0.125" bars; ASTM D955
Melt Flow	1.1 g/10 min @Load 2.16 kg, Temperature 400 °C	1.1 g/10 min @Load 4.76 lb, Temperature 752 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	105	105	M-Scale; ASTM D785
Hardness, Shore D	92 @Time 1.00 sec	92 @Time 0.000278 hour	ASTM D2240

Tensile Strength Mechanical Properties	201 MPa Metric	29200 psi English	ASTM D638 Comments
Tensile Strength, Yield	217 MPa	31500 psi	ISO 527-2/1A/5
Elongation at Break	2.0 %	2.0 %	5.0 mm/min; ASTM D638
	2.0 %	2.0 %	ISO 527-2/1A/5
Tensile Modulus	19.7 GPa	2860 ksi	5.0 mm/min; ASTM D638
	22.8 GPa	3310 ksi	ISO 527-2/1A/1
Flexural Strength	311 MPa	45100 psi	ISO 178
	317 MPa	46000 psi	ASTM D790
Flexural Modulus	17.5 GPa	2540 ksi	ASTM D790
	20.5 GPa	2970 ksi	ISO 178
Compressive Strength	173 MPa	25100 psi	ASTM D695
Poissons Ratio	0.42	0.42	ASTM E132
Shear Modulus	6.94 - 8.03 GPa	1010 - 1160 ksi	Calculated
Shear Strength	95.1 MPa	13800 psi	ASTM D732
Izod Impact, Notched	0.690 J/cm	1.29 ft-lb/in	ASTM D256
	7.50 J/cm	14.1 ft-lb/in	ASTM D4812
Izod Impact, Notched (ISO)	10.0 kJ/m ²	4.76 ft-lb/in ²	ISO 180
Izod Impact, Unnotched (ISO)	44.0 kJ/m ²	20.9 ft-lb/in ²	ISO 180

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	5.20 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	2.89 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	TMA; ASTM E831
	@Temperature -50.0 - 50.0 $^{\circ}\text{C}$	@Temperature -58.0 - 122 $^{\circ}\text{F}$	
Specific Heat Capacity	1.13 J/g- $^{\circ}\text{C}$	0.270 BTU/lb- $^{\circ}\text{F}$	DSC
	@Temperature 50.0 $^{\circ}\text{C}$	@Temperature 122 $^{\circ}\text{F}$	
Thermal Conductivity	1.62 J/g- $^{\circ}\text{C}$	0.387 BTU/lb- $^{\circ}\text{F}$	DSC
	@Temperature 200 $^{\circ}\text{C}$	@Temperature 392 $^{\circ}\text{F}$	
Melting Point	340 $^{\circ}\text{C}$	644 $^{\circ}\text{F}$	Peak; ASTM D3418
Deflection Temperature at 1.8 MPa			Annealed; ASTM D648

(264 psi) Thermal Properties	315 °C Metric	599 °F English	Comments
Glass Transition Temp, Tg	150 °C	302 °F	ASTM D3418
Flammability, UL94	V-0	V-0	UL 94
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	V-0	V-0	UL 94
	@Thickness 1.60 mm	@Thickness 0.0630 in	

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	

Descriptive Properties	Value <i>Good Sterilizability</i>	Comments
	Heat Sterilizable	
	High Heat Resistance	
	High Stiffness	
	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	
RoHS Compliance	RoHS Compliant	
Screw Compression Ratio	2.5:1.0 to 3.5:1.0	
Uses	Automotive Applications	
	Connectors	
	Dental Applications	
	Electrical/Electronic Applications	
	Gears	
	Hospital Goods	
	Industrial Applications	
	Medical Appliances	
	Medical/Healthcare Applications	

Descriptive Properties	Oil/Gas Applications Value	Comments
	Pump Parts	
	Surgical Instruments	
	Thrust Washer	

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