

## Solvay Specialty Polymers KetaSpire<sup>®</sup> KT-820 CF30 Polyetheretherketone (PEEK), 30% Carbon Fiber

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

### Material Notes:

KetaSpire<sup>®</sup> KT-820 CF30 is the low-flow, 30% carbon-fiber reinforced grade of polyetheretherketone (PEEK). Carbon-fiber reinforcement of KetaSpire<sup>®</sup> PEEK provides the maximum levels of mechanical properties at temperatures approaching 300<sup>°</sup>C, and the lowest coefficient of linear thermal expansion within the KetaSpire<sup>®</sup> product family. KetaSpire<sup>®</sup> 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. Features: Autoclave Sterilizable; E-beam Sterilizable; Ethylene Oxide Sterilizable; Fatigue Resistant; Flame Retardant; Good Chemical Resistance; Good Dimensional Stability; Good Sterilizability; Heat Sterilizable; High Heat Resistance; High Stiffness; High Strength; Radiation (Gamma) Resistant; Radiation Sterilizable; Radiotranslucent; Steam Resistant; Steam Sterilizable. Uses: Automotive Applications; Connectors; Dental Applications; Electrical/Electronic Applications; Gears; Hospital Goods; Industrial Applications; Medical Devices; Medical/Healthcare Applications; Oil/Gas Applications; Pump Parts; Surgical Instruments; Thrust Washer. 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-30-Carbon-Fiber.php](http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-KetaSpire-KT-820-CF30-Polyetheretherketone-PEEK-30-Carbon-Fiber.php)

Physical Properties	Metric	English	Comments
Density	1.41 g/cc	0.0509 lb/in <sup>3</sup>	ASTM D792
Filler Content	30 %	30 %	Carbon Fiber
Water Absorption	0.10 % @Time 86400 sec	0.10 % @Time 24.0 hour	ISO 62
Viscosity	920000 cP @Shear Rate 1000 1/s, Temperature 400 <sup>°</sup> C	920000 cP @Shear Rate 1000 1/s, Temperature 752 <sup>°</sup> 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	0.015 - 0.017 cm/cm @Thickness 3.18 mm	0.015 - 0.017 in/in @Thickness 0.125 in	ASTM D955
Melt Flow	1.1 g/10 min @Load 2.16 kg, Temperature 400 <sup>°</sup> C	1.1 g/10 min @Load 4.76 lb, Temperature 752 <sup>°</sup> F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	105	105	ASTM D785

Mechanical Properties	Metric	English	Comments
Tensile Strength	201 MPa	29200 psi	ASTM D638
Tensile Strength, Yield	217 MPa	31500 psi	5 mm/min, Type 1A; ISO 527-2
Elongation at Break	2.0 %	2.0 %	Type 1A, 5 mm/min; ISO 527-2
	2.0 %	2.0 %	5 mm/min; ASTM D638
Tensile Modulus	19.7 GPa	2860 ksi	5 mm/min; ASTM D638
	22.8 GPa	3310 ksi	1 mm/min, Type 1A; ISO 527-2
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 Strength	95.1 MPa	13800 psi	ASTM D732
Izod Impact, Notched	0.690 J/cm	1.29 ft-lb/in	ASTM D256
Izod Impact, Unnotched	7.50 J/cm	14.1 ft-lb/in	ASTM D256
Izod Impact, Notched (ISO)	10.0 kJ/m <sup>2</sup>	4.76 ft-lb/in <sup>2</sup>	ISO 180
Izod Impact, Unnotched (ISO)	44.0 kJ/m <sup>2</sup>	20.9 ft-lb/in <sup>2</sup>	ISO 180

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	5.20 Åµm/m-Å°C	2.89 Åµin/in-Å°F	1
	@Temperature -50.0 - 50.0 Å°C	@Temperature -58.0 - 122 Å°F	
Specific Heat Capacity	1.13 J/g-Å°C	0.270 BTU/lb-Å°F	ASTM C351
	@Temperature 50.0 Å°C	@Temperature 122 Å°F	
	1.62 J/g-Å°C	0.387 BTU/lb-Å°F	ASTM C351
	@Temperature 200 Å°C	@Temperature 392 Å°F	
Thermal Conductivity	0.370 W/m-K	2.57 BTU-in/hr-ft <sup>2</sup> -Å°F	ASTM C177
Melting Point	340 Å°C	644 Å°F	ASTM D3418

Thermal Properties (264 psi) Tensile at 1.8 MPa	Metric 315°C	English 600°F	Comments ATTACHED, ASTM D648
Glass Transition Temp, Tg	150 °C	302 °F	DSC
Flammability, UL94	V-0 @Thickness 0.800 - 1.60 mm	V-0 @Thickness 0.0315 - 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 @Time 14400 sec	302 °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	
RoHS Compliance	RoHS Compliant	
Screw Compression Ratio	2.5:1.0 to 3.5:1.0	

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