

Solvay Specialty Polymers KetaSpire[®] KT-810 Polyetheretherketone (PEEK)

Category : Polymer , Thermoplastic , Polyketone , Polyetheretherketone (PEEK)

Material Notes:

KetaSpire[®] KT-810 is an ultra-high molecular weight natural PEEK resin having a melt viscosity ranging from 0.51-0.65 kPa-s as compared to 0.38-0.50 kPa-s for standard high-viscosity PEEK grades such as KT-820. KetaSpire PEEK is produced to the highest industry standards and is characterized by a distinct combination of properties, which include excellent chemical resistance to organics, acids and bases; exceptional retention of mechanical properties up to 300[°]C (572[°]F); best-in-class fatigue resistance; excellent wear resistance; ease of melt processing; and high purity. The KT-810 grade achieves a greater level of mechanical toughness than previously possible with PEEK, yet it is still processable by conventional methods including extrusion, injection molding, and compression molding. KetaSpire[®] KT-810 is particularly suited for compression molding applications such as machined parts and stock shapes wherein the inherent slow cooling rates of the process limit PEEK's toughness and often result in brittleness due to the higher crystallinity levels. Features: Autoclave Sterilizable; Ductile; E-beam Sterilizable; Ethylene Oxide Sterilizable; Fatigue Resistant; Flame Retardant; Good Chemical Resistance; Good Dimensional Stability; Good Impact Resistance; Good Sterilizability; Heat Sterilizable; High Heat Resistance; Radiation (Gamma) Resistant; Radiation Sterilizable; Radiotranslucent; Steam Resistant; Steam Sterilizable. Uses: Aircraft Applications; Automotive Applications; Connectors; Dental Applications; Electrical/Electronic Applications; Film; Gears; Hospital Goods; Housings; Industrial Applications; Medical Devices; Medical/Healthcare Applications; Oil/Gas Applications; Pump Parts; Seals; Surgical Instruments; Tubing. Injection Molding Notes: KetaSpire resins must be dried completely prior to melt processing. Incomplete drying will result in defects in the formed part ranging from surface streaks to severe bubbling. Pellets can be dried on trays in a circulating air oven or in desiccating hopper dryer. Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-KetaSpire-KT-810-Polyetheretherketone-PEEK.php

Physical Properties	Metric	English	Comments
Density	1.29 g/cc	0.0466 lb/in ³	ASTM D792
Water Absorption	0.10 % @Time 86400 sec	0.10 % @Time 24.0 hour	ISO 62
Viscosity	510000 - 650000 cP @Shear Rate 1000 1/s, Temperature 400 [°] C	510000 - 650000 cP @Shear Rate 1000 1/s, Temperature 752 [°] F	Melt Viscosity; ASTM D3835

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	94.5 MPa	13700 psi	ASTM D638
Elongation at Break	25 - 50 %	25 - 50 %	ASTM D638
Elongation at Yield	5.2 %	5.2 %	ASTM D638
Tensile Modulus	3.50 GPa	508 ksi	ASTM D638
Flexural Strength	145 MPa	21000 psi	ASTM D790

Mechanical Properties	Metric	English	Comments
Izod Impact, Notched	1.00 J/cm	1.87 ft-lb/in	ASTM D256
Izod Impact, Unnotched	NB	NB	ASTM D256

Thermal Properties	Metric	English	Comments
Deflection Temperature at 1.8 MPa (264 psi)	157 Å°C @Thickness 3.20 mm	315 Å°F @Thickness 0.126 in	Annealed; ASTM D648

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	355 Å°C	671 Å°F	
Middle Barrel Temperature	365 Å°C	689 Å°F	
Front Barrel Temperature	370 Å°C	698 Å°F	
Nozzle Temperature	375 Å°C	707 Å°F	
Mold Temperature	175 - 205 Å°C	347 - 401 Å°F	
Drying Temperature	150 Å°C @Time 14400 sec	302 Å°F @Time 4.00 hour	

Descriptive Properties	Value	Comments
Additive	Lubricant	
Agency Ratings	ISO 10993; ISO 10993-Part 1	
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	Latin America	
	North America	
Color	Natural	
Form	Pellets; Powder	
Injection Rate	Fast	
Processing Technique	Compression Molding; Extrusion Blow Molding	
	Film Extrusion; Injection Molding; Machining	

Descriptive Properties	Value	Comments
RoHS Compliance	RoHS Compliant	
Screw Compression Ratio	2.5:1.0 to 3.5:1.0	

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