

Solvay Specialty Polymers KetaSpire® KT-XXXX Polyetheretherketone (PEEK)

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

Material Notes:

KetaSpire® KT-820 is a low flow grade of unreinforced polyetheretherketone (PEEK) supplied in a lubricated pellet form. 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. 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-XXXX-Polyetheretherketone-PEEK.php

Physical Properties	Metric	English	Comments
Density	1.30 g/cc	0.0470 lb/in ³	ASTM D792
Water Absorption	0.10 %	0.10 %	ISO 62
	@Time 86400 sec	@Time 24.0 hour	
Viscosity	440000 cP	440000 cP	Melt Viscosity; ASTM D3835
	@Shear Rate 1000 1/s, Temperature 400 °C	@Shear Rate 1000 1/s, Temperature 752 °F	
Linear Mold Shrinkage, Flow	0.011 - 0.013 cm/cm	0.011 - 0.013 in/in	
Linear Mold Shrinkage, Transverse	0.013 - 0.015 cm/cm	0.013 - 0.015 in/in	ASTM D955
Melt Flow	3.0 g/10 min	3.0 g/10 min	ASTM D1238
	@Load 2.16 kg, Temperature 400 °C	@Load 4.76 lb, Temperature 752 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	97	97	ASTM D785
Hardness, Shore D	88	88	1 sec; ASTM D2240
Tensile Strength	95.0 MPa	13800 psi	50 mm/min; ASTM D638
Tensile Strength, Yield	96.0 MPa	13900 psi	Type 1A, 50 mm/min; ISO 527-2

Mechanical Properties	Metric	English	Comments
	20 - 30 %	20 - 30 %	50 mm/min; ASTM D638
Elongation at Yield	4.9 %	4.9 %	Type 1A, 50 mm/min; ISO 527-2
	5.2 %	5.2 %	50 mm/min; ASTM D638
Tensile Modulus	3.50 GPa	508 ksi	50 mm/min; ASTM D638
	3.83 GPa	555 ksi	1 mm/min, Type 1A; ISO 527-2
Flexural Strength	121 MPa	17500 psi	ISO 178
	146 MPa	21200 psi	ASTM D790
Flexural Modulus	3.70 GPa	537 ksi	ISO 178
	3.70 GPa	537 ksi	ASTM D790
Compressive Strength	118 MPa	17100 psi	ASTM D695
Poissons Ratio	0.33	0.33	ASTM E132
Shear Strength	84.1 MPa	12200 psi	ASTM D732
Izod Impact, Notched	0.910 J/cm	1.70 ft-lb/in	ASTM D256
Izod Impact, Unnotched	NB	NB	ASTM D256
Izod Impact, Notched (ISO)	9.20 kJ/mÂ²	4.38 ft-lb/inÂ²	ISO 180
Izod Impact, Unnotched (ISO)	NB	NB	ISO 180

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	43.0 Âµm/m-Â°C	23.9 Âµin/in-Â°F	1
	@Temperature -50.0 - 50.0 Â°C	@Temperature -58.0 - 122 Â°F	
Specific Heat Capacity	1.56 J/g-Â°C	0.373 BTU/lb-Â°F	ASTM C351
	@Temperature 50.0 Â°C	@Temperature 122 Â°F	
	2.15 J/g-Â°C	0.514 BTU/lb-Â°F	ASTM C351
	@Temperature 200 Â°C	@Temperature 392 Â°F	
Thermal Conductivity	0.240 W/m-K	1.67 BTU-in/hr-ftÂ²-Â°F	ASTM C177
Melting Point	340 Â°C	644 Â°F	ASTM D3418
Deflection Temperature at 1.8 MPa	157 Â°C	315 Â°F	

Thermal Properties	Metric	English	Comments
	@ Thickness 3.20 mm	@ Thickness 0.126 in	Annealed- ASTM D648
Glass Transition Temp, Tg	150 Â°C	302 Â°F	DSC
Flammability, UL94	V-1	V-1	
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	V-0	V-0	
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Oxygen Index	37 %	37 %	ASTM D2863

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.60e+17 ohm-cm	1.60e+17 ohm-cm	ASTM D257
Surface Resistance	>= 1.90e+17 ohm	>= 1.90e+17 ohm	ASTM D257
Dielectric Constant	3.05	3.05	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	ASTM D150
	3.06	3.06	
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	ASTM D150
	3.1	3.1	
	@Frequency 1000 Hz	@Frequency 1000 Hz	ASTM D150
Dielectric Strength	15.0 kV/mm	381 kV/in	
	@Thickness 3.00 mm	@Thickness 0.118 in	ASTM D149
	200 kV/mm	5080 kV/in	
	@Thickness 0.0508 mm	@Thickness 0.00200 in	Amorphous Film; ASTM D149
Dissipation Factor	0.0010	0.0010	
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	ASTM D150
	0.0010	0.0010	
	@Frequency 1000 Hz	@Frequency 1000 Hz	ASTM D150
	0.0030	0.0030	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	ASTM D150

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	355 Â°C	671 Â°F	

Processing Properties	Metric	English	Comments
Front Barrel Temperature	370 Â°C	698 Â°F	
Nozzle Temperature	375 Â°C	707 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
Additive	Lubricant	
Agency Ratings	ISO 10993; ISO 10993-Part 1	
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	Latin America	
	North America	
Color	Black; Natural	
Form	Pellets	
Injection Rate	Fast	
Processing Technique	Extrusion Blow Molding; Film Extrusion	
	Injection Molding; Machining; Profile Extrusion	
	Thermoforming; Wire & Cable Extrusion	
RoHS Compliance	RoHS Compliant	
Screw Compression Ratio	2.5:1.0 to 3.5:1.0	

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