

Solvay Specialty Polymers KetaSpire® KT-820 SL45 Polyetheretherketone (PEEK)

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

Material Notes:

KetaSpire® KT-820 SL45 is a PEEK based compound specifically designed to provide exceptionally low wear rates and good mechanical properties in applications where an external lubricant is provided. Features: Fatigue Resistant; Flame Retardant; Good Chemical Resistance; Good Dimensional Stability; Good Wear Resistance; High Heat Resistance. Uses: Automotive Applications; Bushings; Gears; Oil/Gas Applications; Thrust Washer. Injection Molding Notes: Back Pressure: minimum. Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-KetaSpire-KT-820-SL45-Polyetheretherketone-PEEK.php

Physical Properties	Metric	English	Comments
Density	1.50 g/cc	0.0542 lb/in ³	ASTM D792
Water Absorption	0.030 % @Time 86400 sec	0.030 % @Time 24.0 hour	ISO 62
Viscosity	380000 cP @Shear Rate 1000 1/s, Temperature 400 Â°C	380000 cP @Shear Rate 1000 1/s, Temperature 752 Â°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	0.013 - 0.015 cm/cm @Thickness 3.18 mm	0.013 - 0.015 in/in @Thickness 0.125 in	ASTM D955
Melt Flow	2.0 g/10 min @Load 2.16 kg, Temperature 400 Â°C	2.0 g/10 min @Load 4.76 lb, Temperature 752 Â°F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	90	90	ASTM D785
Tensile Strength	161 MPa	23400 psi	ASTM D638
Tensile Strength, Yield	197 MPa	28600 psi	5 mm/min, Type 1A; ISO 527-2
Elongation at Break	1.5 %	1.5 %	Type 1A, 5 mm/min; ISO 527-2
	1.5 %	1.5 %	5 mm/min; ASTM D638
Tensile Modulus	18.3 GPa	2650 ksi	ASTM D638
	25.3 GPa	3670 ksi	1 mm/min, Type 1A; ISO 527-2

Mechanical Properties	Metric	English	Comments
Flexural Strength	265 MPa	38500 psi	ASTM D790
	273 MPa	39600 psi	ISO 178
Flexural Modulus	16.6 GPa	2410 ksi	ASTM D790
	24.1 GPa	3500 ksi	ISO 178
Compressive Strength	127 MPa	18400 psi	ASTM D695
Shear Strength	84.1 MPa	12200 psi	ASTM D732
Izod Impact, Notched	0.690 J/cm	1.29 ft-lb/in	ASTM D256
Izod Impact, Unnotched	5.30 J/cm	9.93 ft-lb/in	ASTM D256
Izod Impact, Notched (ISO)	8.50 kJ/mÂ²	4.04 ft-lb/inÂ²	ISO 180
Izod Impact, Unnotched (ISO)	43.0 kJ/mÂ²	20.5 ft-lb/inÂ²	ISO 180

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	17.0 Âµm/m-Â°C @Temperature -50.0 - 50.0 Â°C	9.44 Âµin/in-Â°F @Temperature -58.0 - 122 Â°F	1
Specific Heat Capacity	1.25 J/g-Â°C @Temperature 50.0 Â°C	0.299 BTU/lb-Â°F @Temperature 122 Â°F	ASTM C351
	1.67 J/g-Â°C @Temperature 200 Â°C	0.399 BTU/lb-Â°F @Temperature 392 Â°F	ASTM C351
Thermal Conductivity	0.360 W/m-K	2.50 BTU-in/hr-ftÂ²-Â°F	ASTM C177
Melting Point	342 Â°C	648 Â°F	ASTM D3418
Deflection Temperature at 1.8 MPa (264 psi)	299 Â°C	570 Â°F	Annealed; ASTM D648
Glass Transition Temp, Tg	152 Â°C	306 Â°F	DSC

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	366 Â°C	691 Â°F	
Middle Barrel Temperature	371 Â°C	700 Â°F	
Front Barrel Temperature	377 Â°C	711 Â°F	
Nozzle Temperature	382 Â°C	720 Â°F	

Processing Properties	Metric	English	Comments
	149 Â°C	300 Â°F	
Drying Temperature	@Time 14400 sec	@Time 4.00 hour	

Descriptive Properties	Value	Comments
Additive	Carbon Fiber + PTFE Lubricant	
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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