

## Solvay Specialty Polymers KetaSpire® KT-820 SL30 Polyetheretherketone (PEEK) (Unverified Data\*\*)

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

### Material Notes:

Ketaspire KT-820 SL30 is a polyetheretherketone (PEEK) compound designed to provide a balance of excellent mechanical properties, wear resistance and low coefficient of friction in both dry and externally lubricated applications. The resin is formulated with a ternary anti-friction/anti-wear additive system comprised of carbon fiber, graphite, and polytetrafluoroethylene (PTFE). 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 transportation, electronics, chemical processing, and industrial uses including oil and gas exploration and production. The resin is black in color in its natural state. Injection 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-SL30-Polyetheretherketone-PEEK-nbspUnverified-Data.php](http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-KetaSpire-KT-820-SL30-Polyetheretherketone-PEEK-nbspUnverified-Data.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.45 g/cc	1.45 g/cc	ASTM D792
Water Absorption	0.14 % @Time 86400 sec	0.14 % @Time 24.0 hour	ASTM D570
Viscosity	270000 cP @Shear Rate 1000 1/s, Temperature 400 °C	270000 cP @Shear Rate 1000 1/s, Temperature 752 °F	Melt; ASTM D3835
Linear Mold Shrinkage, Flow	0.0010 - 0.0030 cm/cm @Thickness 3.18 mm	0.0010 - 0.0030 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	2.4 g/10 min @Load 2.16 kg, Temperature 400 °C	2.4 g/10 min @Load 4.76 lb, Temperature 752 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	80	80	M-Scale; ASTM D785
Hardness, Shore D	86 @Time 1.00 sec	86 @Time 0.000278 hour	ASTM D2240
Tensile Strength	133 MPa	19300 psi	ASTM D638

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	150 MPa	21500 psi	ISO 527-2/1A/5
Elongation at Break	2.8 %	2.8 %	5.0 mm/min; ASTM D638
	2.8 %	2.8 %	ISO 527-2/1A/5
Tensile Modulus	11.0 GPa	1600 ksi	5.0 mm/min; ASTM D638
	14.4 GPa	2090 ksi	ISO 527-2/1A/1
Flexural Strength	218 MPa	31600 psi	ISO 178
	221 MPa	32100 psi	ASTM D790
Flexural Modulus	10.5 GPa	1520 ksi	ASTM D790
	14.9 GPa	2160 ksi	ISO 178
Compressive Strength	110 MPa	16000 psi	ASTM D695
Shear Strength	70.3 MPa	10200 psi	ASTM D732
Izod Impact, Notched	0.690 J/cm	1.29 ft-lb/in	ASTM D256
	5.30 J/cm	9.93 ft-lb/in	ASTM D4812
Izod Impact, Notched (ISO)	9.00 kJ/m <sup>2</sup>	4.28 ft-lb/in <sup>2</sup>	ISO 180
Izod Impact, Unnotched (ISO)	34.0 kJ/m <sup>2</sup>	16.2 ft-lb/in <sup>2</sup>	ISO 180
Coefficient of Friction, Dynamic	0.080	0.080	Lubricated conditions: 800 fpm and 750 psi; ASTM D3702
	0.090	0.090	Lubricated conditions: 75 fpm and 1000 psi; ASTM D3702
	0.25	0.25	Dry conditions: 800 fpm and 31.25 psi; ASTM D3702
	0.30	0.30	Dry conditions: 200 fpm and 125 psi; ASTM D3702

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	22.0 μm/m-°C	12.2 μin/in-°F	ASTM E831
	@Temperature 0.000 - 150 °C	@Temperature 32.0 - 302 °F	
	22.0 μm/m-°C	12.2 μin/in-°F	TMA; ASTM E831
	@Temperature -50.0 - 50.0 °C	@Temperature -58.0 - 122 °F	
Specific Heat Capacity	1.36 J/g-°C	0.325 BTU/lb-°F	DSC
	@Temperature 50.0 °C	@Temperature 122 °F	

Thermal Properties	Metric	English	Comments
	@Temperature 200 °C	@Temperature 392 °F	DSC
Thermal Conductivity	0.400 W/m-K	2.78 BTU-in/hr-ft <sup>2</sup> -°F	ASTM E1530
Melting Point	342 °C	648 °F	Peak; ASTM D3418
Deflection Temperature at 1.8 MPa (264 psi)	291 °C	556 °F	Unannealed; ASTM D648
	291 °C	556 °F	Annealed; ASTM D648
Glass Transition Temp, Tg	152 °C	306 °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	366 °C	691 °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
Additive	Carbon Fiber + Graphite + PTFE Lubricant	
Appearance	Black	
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	North America	
	South America	

<b>Features</b> Descriptive Properties	<b>Fatigue Resistant</b> Value	Comments
	Flame Retardant	
	Good Chemical Resistance	
	Good Dimensional Stability	
	Good Wear Resistance	
	High Heat Resistance	
Forms	Pellets	
Generic	PEEK	
Injection Rate	Fast	
Processing Method	Injection Molding	
	Machining	
	Profile Extrusion	
Screw Compression Ratio	2.5:1.0 to 3.5:1.0	
Uses	Aircraft Applications	
	Bearings	
	Bushings	
	Film	
	Gears	
	Industrial Applications	
	Profiles	
	Rods	
	Sheet	
	Tubing	

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