

## Solvay Specialty Polymers KetaSpire® KT-820 SL45 Polyetheretherketone (PEEK) (Unverified Data\*\*)

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

### 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. 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-SL45-Polyetheretherketone-PEEK-nbspUnverified-Data.php](http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-KetaSpire-KT-820-SL45-Polyetheretherketone-PEEK-nbspUnverified-Data.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.50 g/cc	1.50 g/cc	ASTM D792
Water Absorption	0.030 % @Time 86400 sec	0.030 % @Time 24.0 hour	ASTM D570
Viscosity	380000 cP @Shear Rate 1000 1/s, Temperature 400 °C	380000 cP @Shear Rate 1000 1/s, Temperature 752 °F	Melt; 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	5" x 0.5" x 0.125" bars; ASTM D955
Linear Mold Shrinkage, Transverse	0.013 - 0.015 cm/cm @Thickness 3.18 mm	0.013 - 0.015 in/in @Thickness 0.125 in	5" x 0.5" x 0.125" bars; ASTM D955
Melt Flow	2.0 g/10 min @Load 2.16 kg, Temperature 400 °C	2.0 g/10 min @Load 4.76 lb, Temperature 752 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	90	90	M-Scale; ASTM D785
Tensile Strength	161 MPa	23400 psi	ASTM D638
Tensile Strength, Yield	197 MPa	28600 psi	ISO 527-2/1A/5
Elongation at Break	1.5 %	1.5 %	5.0 mm/min; ASTM D638
	1.5 %	1.5 %	ISO 527-2/1A/5
Tensile Modulus	18.3 GPa	2650 ksi	ASTM D638
	25.3 GPa	3670 ksi	ISO 527-2/1A/1

Mechanical Properties	Metric	English	Comments
	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
	5.30 J/cm	9.93 ft-lb/in	ASTM D4812
Izod Impact, Notched (ISO)	8.50 kJ/m <sup>2</sup>	4.04 ft-lb/in <sup>2</sup>	ISO 180
Izod Impact, Unnotched (ISO)	43.0 kJ/m <sup>2</sup>	20.5 ft-lb/in <sup>2</sup>	ISO 180
Coefficient of Friction, Dynamic	0.070	0.070	Lubricated conditions: 800 fpm and 750 psi; ASTM D3702
	0.12	0.12	Lubricated conditions: 75 fpm and 1000 psi; ASTM D1894
	0.34	0.34	Dry conditions: 800 fpm and 31.25 psi; ASTM D1894
	0.45	0.45	Dry conditions: 200 fpm and 125 psi; ASTM D3702

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	17.0 μm/m-°C	9.44 μin/in-°F	TMA; ASTM E831
	@Temperature -50.0 - 50.0 °C	@Temperature -58.0 - 122 °F	
Specific Heat Capacity	1.25 J/g-°C	0.299 BTU/lb-°F	DSC
	@Temperature 50.0 °C	@Temperature 122 °F	
	1.67 J/g-°C	0.399 BTU/lb-°F	DSC
	@Temperature 200 °C	@Temperature 392 °F	
Thermal Conductivity	0.360 W/m-K	2.50 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)	299 °C	570 °F	Annealed; ASTM D648
Glass Transition Temp, Tg	152 °C	306 °F	ASTM D3418

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	366 °C	691 °F	
Middle Barrel Temperature	371 °C	700 °F	
Front Barrel Temperature	377 °C	711 °F	
Nozzle Temperature	382 °C	720 °F	
Mold Temperature	177 - 204 °C	351 - 399 °F	
Drying Temperature	149 °C	300 °F	
Dry Time	4.00 hour	4.00 hour	

Descriptive Properties	Value	Comments
Additive	Carbon Fiber + PTFE Lubricant	
Appearance	Black	
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	North America	
	South America	
Features	Fatigue Resistant	
	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	

Descriptive Properties	Profile Extrusion Value	Comments
RoHS Compliance	RoHS Compliant	
Screw Compression Ratio	2.5:1.0 to 3.5:1.0	
Uses	Automotive Applications	
	Bushings	
	Gears	
	Oil/Gas Applications	
	Thrust Washer	

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