

KetaSpire[®] KT-820 SL30 polyetheretherketone

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.

General

Ceneral		
Material Status	Commercial: Active	
Availability	 Africa & Middle East Asia Pacific Europe 	 Latin America North America
Additive	Carbon Fiber + Graphite + PTFE Lubricant	
Features	 Chemical Resistant Fatigue Resistant Flame Retardant 	 Good Dimensional Stability High Heat Resistance Wear Resistant
Uses	 Aircraft Applications Bearings Bushings Film Gears 	 Industrial Applications Profiles Rods Sheet Tubing
RoHS Compliance	 Contact Manufacturer 	
Appearance	• Black	
Forms	Pellets	
Processing Method	Injection MoldingMachining	Profile Extrusion

Physical	Typical Value Unit	Test method
Density / Specific Gravity	1.45	ASTM D792
Melt Mass-Flow Rate (MFR) (400°C/2.16 kg)	2.4 g/10 min	ASTM D1238
Molding Shrinkage ¹		ASTM D955
Flow : 3.18 mm	0.10 to 0.30 %	
Across Flow : 3.18 mm	1.5 to 1.7 %	
Water Absorption (24 hr)	0.14 %	ASTM D570

Instruction Typical Value Test (Modulus) 2 11000 MPa ASTM D638 14400 MPa ISO 527-1/1A/1 Tensile Stress Yield ISO 527-2/1A/5 133 MPa ASTM D638 Tensile Elongation Break 2 2.8 % ASTM D638 Break 2 2.8 % ISO 527-2/1A/5 F Flexural Modulus 10500 MPa ASTM D638 Break 2 2.8 % ISO 527-2/1A/5 F Flexural Modulus 10500 MPa ASTM D638 10500 MPa ASTM D790 14900 MPa ISO 178 F Flexural Strength 100 MPa ASTM D790 211 MPa ASTM D790 218 MPa ISO 178 Coopressive Strength IO0 MPa ASTM D732 Coefficient of Friction ASTM D732 ASTM D732 ASTM D732 Coefficient of Friction ASTM D735 4 0.30 5	Mechanical	Typical Value	Unit	Test method
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HardnessTypical Value UnitTest methodRockwell Hardness (M-Scale)80ASTM D785		530	J/m	ASTM D4812
Rockwell Hardness (M-Scale)80ASTM D785		34	kJ/m²	ISO 180
	Hardness	Typical Value	Unit	Test method
Durometer Hardness (Shore D, 1 sec) 86 ASTM D2240	Rockwell Hardness (M-Scale)	80		ASTM D785
	Durometer Hardness (Shore D, 1 sec)	86		ASTM D2240

Thermal	Typical Value Unit	Test method
Deflection Temperature Under Load		ASTM D648
1.8 MPa, Unannealed	291 °C	
1.8 MPa, Annealed	291 °C	
Glass Transition Temperature	152 °C	ASTM D3418
Peak Melting Temperature	342 °C	ASTM D3418
CLTE - Flow		ASTM E831
0 to 150°C	2.2E-5 cm/cm/°C	
-50 to 50°C	2.2E-5 cm/cm/°C	
Specific Heat		DSC
50°C	1360 J/kg/ºC	
200°C	1840 J/kg/°C	
Thermal Conductivity	0.40 W/m/K	ASTM E1530
Flammability	Typical Value Unit	Test method
Flame Rating		UL 94
0.8 mm	V-0	
1.6 mm	V-0	
Fill Analysis	Typical Value Unit	Test method
Melt Viscosity (400°C, 1000 sec^-1)	270 Pa·s	ASTM D3835
Injection	Typical Value Unit	
Drying Temperature	150 °C	
Drying Time	4.0 hr	
Rear Temperature	366 °C	
Middle Temperature	370 °C	
Front Temperature	375 °C	
Nozzle Temperature	380 °C	
Mold Temperature	175 to 205 °C	
Injection Rate	Fast	
Screw Compression Ratio	2.5:1.0 to 3.5:1.0	

Injection Notes Back Pressure: minimum

Notes

Typical properties: these are not to be construed as specifications.

¹ 5" x 0.5" x 0.125" bars

² 5.0 mm/min

³ Dry conditions: 800 fpm and 31.25 psi (4.06 m/s and 215 kPa

⁴ Dry conditions: 200 fpm and 125 psi (1.02 m/s and 862 kPa). Not recommended at 50 fpm and 500 psi (0.25 m/s and 3447 kPa).

 $^{\scriptscriptstyle 5}$ Lubricated conditions: 75 fpm and 1000 psi (0.38 m/s and 6895 kPa)

⁶ Lubricated conditions: 800 fpm and 750 psi (4.06 m/s and 5171 kPa)

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Safety Data Sheets (SDS) are available by emailing us or contacting your sales representative. Always consult the appropriate SDS before using any of our products.

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