KetaSpire® KT-820 SL10
polyetheretherketone

KetaSpire® KT-820 SL10 is a polyetheretherketone (PEEK) based compound designed to offer enhanced lubricity and reduced friction compared to standard PEEK. Unlike other grades formulated for wear resistance, this grade offers high lubricity while retaining outstanding ductility and toughness that surpasses that of unmodified high viscosity PEEK. Also, this product offers high melt flow, which allows injection molding of thin, intricate, or complex parts.

In addition to these differentiating features, this resin also offers the outstanding combination of ultra-performance attributes commonly known for PEEK. These include: mechanical strength and stiffness even at elevated temperatures, long term thermal-oxidative stability, fatigue resistance, and excellent chemical resistance to a broad range of harsh chemical environments including acids, bases, and organics.

The attractive combination of properties make KetaSpire® KT-820 SL10 suitable for applications in transportation, electronics, chemical processing, and industrial uses including oil and gas exploration and production.

General		
Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Features	• Chemical Resistant • Fatigue Resistant • Flame Retardant	• Good Dimensional Stability • High Heat Resistance • Wear Resistant
Uses	• Film • Industrial Applications • Oil/Gas Applications • Profiles	• Rods • Sheet • Tubing
RoHS Compliance	• RoHS Compliant	
Appearance	• Natural Color	
Forms	• Pellets	
Processing Method	• Injection Molding • Machining	• Profile Extrusion

Physical	Typical Value	Unit	Test method
Density / Specific Gravity	1.35		ASTM D792
Molding Shrinkage			ASTM D955
Flow : 3.20 mm [1]	1.2 to 1.4	%	
Across Flow : 3.20 mm [2]	1.6 to 1.8	%	
Water Absorption (24 hr)	0.10	%	ASTM D570

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Mechanical	Typical Value	Unit	Test method
Tensile Modulus [3]	3600	MPa	ASTM D638
Tensile Strength [3]	88.0	MPa	ASTM D638
Tensile Elongation			
Yield [3]	5.2	%	ASTM D638
Break [3]	60	%	ASTM D638
Break	60	%	ISO 527-2/1A/50
Flexural Modulus	3500	MPa	ASTM D790
Flexural Strength			ASTM D790
--	134	MPa	
Yield	134	MPa	

Impact	Typical Value	Unit	Test method
Notched Izod Impact	170	J/m	ASTM D256
Unnotched Izod Impact	No Break		ASTM D4812

Hardness	Typical Value	Unit	Test method
Durometer Hardness (Shore D, 1 sec)	83		ASTM D2240

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Annealed	155	°C	

Electrical	Typical Value	Unit	Test method
Surface Resistivity	1.0E+16	ohms	ASTM D257
Volume Resistivity	2.0E+17	ohms·cm	ASTM D257
Dielectric Strength	20	kV/mm	ASTM D149
Comparative Tracking Index [4] (3.00 mm)	175	V	IEC 60112

Fill Analysis	Typical Value	Unit	Test method
Melt Viscosity (400°C, 1000 sec^-1)	170	Pa·s	ASTM D3835

Injection	Typical Value	Unit
Drying Temperature	150	°C
Drying Time	4.0	hr
Rear Temperature	365	°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	

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Notes

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

[1] 5" x 0.5" x 0.125" bars

[2] 5" x 0.5" x 0.125" bar

[3] 50 mm/min

[4] Depth of Erosion: < 1.00 mm

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