KetaSpire® KT-820 SL30

Polyetheretherketone

Solvay Specialty Polymers

Message:

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 Information	
Additive	Carbon fiber graphite PFTE lubricant
Features	Good dimensional stability Good chemical resistance Good wear resistance Fatigue resistance Heat resistance, high Flame retardancy
Uses	Bar Films Bushing Gear Aircraft applications Industrial application Pipe fittings Sheet Profile Bearing
RoHS Compliance	Contact manufacturer
Appearance	Black
Forms	Particle
Processing Method	Machining Profile extrusion molding Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.45	g/cm³	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: 3.18mm	0.10 - 0.30	%	ASTM D955
Transverse flow: 3.18mm	1.5 - 1.7	%	ASTM D955
Water Absorption (24 hr)	0.14	%	ASTM D570
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (M-Scale)	80		ASTM D785
Durometer Hardness (Shore D, 1 sec)	86		ASTM D2240
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			
-- [2]	11000	MPa	ASTM D638
--	14400	MPa	ISO 527-2/1A/1
Tensile Stress			
Yield	150	MPa	ISO 527-2/1A/5
--	133	MPa	ASTM D638
Tensile Elongation			
Fracture [3]	2.8	%	ASTM D638
Fracture	2.8	%	ISO 527-2/1A/5
Flexural Modulus			
--	10500	MPa	ASTM D790
--	14900	MPa	ISO 178
Flexural Strength			
--	221	MPa	ASTM D790
--	218	MPa	ISO 178
Compressive Strength	110	MPa	ASTM D695
Shear Strength	70.3	MPa	ASTM D732
Coefficient of Friction			ASTM D3702
-- [4]	0.090		ASTM D3702
-- [5]	0.080		ASTM D3702
-- [6]	0.25		ASTM D3702
-- [7]	0.30		ASTM D3702
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact			
--	69	J/m	ASTM D256
--	9.0	kJ/m^2	ISO 180
Unnotched Izod Impact			
--	530	J/m	ASTM D4812
--	34	kJ/m^2	ISO 180
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			ASTM D648
1.8 MPa, not annealed	291	°C	ASTM D648

1.8 MPa, annealed	291	°C	ASTM D648
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	ASTM E831
-50 to 50°C	2.2E-5	cm/cm/°C	ASTM E831
Specific Heat			DSC
50°C	1360	J/kg/°C	DSC
200°C	1840	J/kg/°C	DSC
Thermal Conductivity	0.40	W/m/K	ASTM E1530
Flammability	Nominal Value		Test Method
Flame Rating			UL 94
0.800 mm	V-0		UL 94
1.60 mm	V-0		UL 94
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (400°C, 1000 sec^-1)	270	Pa·s	ASTM D3835
Injection	Nominal 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 - 205	°C	
Injection Rate	Fast		
Screw Compression Ratio	2.5:1.0 - 3.5:1.0		
Injection instructions			
Back Pressure: minimum			
NOTE			
1.	5" x 0.5" x 0.125" bars		
2.	5.0 mm/min		
3.	5.0 mm/min		
4.	Lubrication conditions: 75 fpm , 1000 psi (0.38 m/s , 6895 kPa)		
5.	Lubrication conditions: 800 fpm , 750 psi (4.06 m/s , 5171 kPa)		
6.	Drying conditions: 800 fpm and 31.25 psi (4.06 m/s and 215 kPa		
7.	Drying conditions: drying conditions: 200 fpm ,125 psi (1.02 m/s , 862 kPa. 50 fpm ,500 psi (0.25 m/s , 3447 kPa) is not recommended.)		

Recommended distributors for this material

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