

KetaSpire® KT-820 CF30

Polyetheretherketone
Solvay Specialty Polymers

Message:

KetaSpire® KT-820 CF30 is the low-flow, 30% carbon-fiber reinforced grade of polyetheretherketone (PEEK). Carbon- fiber reinforcement of KetaSpire® PEEK provides the maximum levels of mechanical properties at temperatures approaching 300°C, and the lowest coefficient of linear thermal expansion within the KetaSpire® product family.

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 healthcare, transportation, electronics, chemical processing and other industrial uses.

General Information	
UL YellowCard	E140728-100211986
Filler / Reinforcement	Carbon Fiber,30% Filler by Weight
Features	Autoclave Sterilizable
	E-beam Sterilizable
	Ethylene Oxide Sterilizable
	Fatigue Resistant
	Flame Retardant
	Good Chemical Resistance
	Good Dimensional Stability
	Good Sterilizability
	Heat Sterilizable
	High Heat Resistance
	High Stiffness
	High Strength
	Radiation (Gamma) Resistant
	Radiation Sterilizable
	Radiotranslucent
	Steam Resistant
	Steam Sterilizable
Uses	Automotive Applications
	Connectors
	Dental Applications
	Electrical/Electronic Applications
	Gears
	Hospital Goods
	Industrial Applications
	Medical Devices
	Medical/Healthcare Applications
	Oil/Gas Applications

Pump Parts
Surgical Instruments
Thrust Washer

RoHS Compliance	RoHS Compliant		
Appearance	Black		
Forms	Pellets		
Processing Method	Injection Molding Machining Profile Extrusion		
Multi-Point Data	Isothermal Stress vs. Strain (ISO 11403-1)		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.41	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (400°C/2.16 kg)	1.1	g/10 min	ASTM D1238
Molding Shrinkage ¹			ASTM D955
Flow : 3.18 mm	0.0 to 0.20	%	
Across Flow : 3.18 mm	1.5 to 1.7	%	
Water Absorption (24 hr)	0.10	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	105		ASTM D785
Durometer Hardness (Shore D, 1 sec)	92		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ²	19700	MPa	ASTM D638
--	22800	MPa	ISO 527-2/1A/1
Tensile Stress			
Yield	217	MPa	ISO 527-2/1A/5
--	201	MPa	ASTM D638
Tensile Elongation			
Break ³	2.0	%	ASTM D638
Break	2.0	%	ISO 527-2/1A/5
Flexural Modulus			
--	17500	MPa	ASTM D790
--	20500	MPa	ISO 178
Flexural Strength			
--	317	MPa	ASTM D790
--	311	MPa	ISO 178
Compressive Strength	173	MPa	ASTM D695
Shear Strength	95.1	MPa	ASTM D732
Poisson's Ratio	0.42		ASTM E132

Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			
--	69	J/m	ASTM D256
--	10	kJ/m ²	ISO 180
Unnotched Izod Impact			
--	750	J/m	ASTM D4812
--	44	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Annealed)	315	°C	ASTM D648
Glass Transition Temperature	150	°C	ASTM D3418
Peak Melting Temperature	340	°C	ASTM D3418
CLTE - Flow (-50 to 50°C)	5.2E-6	cm/cm/°C	ASTM E831
Specific Heat			DSC
50°C	1130	J/kg/°C	
200°C	1620	J/kg/°C	
Thermal Conductivity	0.37	W/m/K	ASTM E1530
Flammability	Nominal Value		Test Method
Flame Rating			UL 94
0.800 mm	V-0		
1.60 mm	V-0		
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (400°C, 1000 sec ⁻¹)	920	Pa·s	ASTM D3835
Injection	Nominal 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		
NOTE			
1.	5" x 0.5" x 0.125" bars		
2.	5.0 mm/min		
3.	5.0 mm/min		

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

