

KetaSpire® KT-880FP

Polyetheretherketone
Solvay Specialty Polymers

Message:

KetaSpire® KT-880FP is the high-flow grade of unreinforced polyetheretherketone (PEEK) supplied in a natural color fine powder form for compression molding and other uses that can benefit from the fine powder form.

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. The resin is also available as KetaSpire KT-880 NT in a natural-color pellet form for injection molding.

General Information	
Features	Autoclave Sterilizable
	Biocompatible
	Ductile
	E-beam Sterilizable
	Ethylene Oxide Sterilizable
	Fatigue Resistant
	Flame Retardant
	Good Chemical Resistance
	Good Dimensional Stability
	Good Impact Resistance
	Good Sterilizability
	Heat Sterilizable
	High Flow
	High Heat Resistance
	Radiation (Gamma) Resistant
	Radiation Sterilizable
	Radiotranslucent
	Steam Resistant
	Steam Sterilizable
Uses	Aircraft Applications
	Connectors
	Dental Applications
	Electrical/Electronic Applications
	Film
	Hospital Goods
	Industrial Applications
	Medical Devices
	Medical/Healthcare Applications
	Oil/Gas Applications

Pump Parts
Seals
Surgical Instruments

Agency Ratings	ISO 10993 ISO 10993-Part 1
RoHS Compliance	RoHS Compliant
Appearance	Black Natural Color
Forms	Pellets 2
Processing Method	Extrusion Blow Molding Fiber (Spinning) Extrusion Film Extrusion Injection Molding Machining Profile Extrusion Thermoforming Wire & Cable Extrusion

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.30	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (400°C/2.16 kg)	36	g/10 min	ASTM D1238
Molding Shrinkage ¹			ASTM D955
Flow : 0.318 mm	1.4 to 1.6	%	
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)	102		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ²	3700	MPa	ASTM D638
--	4000	MPa	ISO 527-2/1A/1
Tensile Stress			
Yield	102	MPa	ISO 527-2/1A/50
-- ³	100	MPa	ASTM D638
Tensile Elongation			
Yield ⁴	5.2	%	ASTM D638
Yield	5.0	%	ISO 527-2/1A/50
Break ⁵	10 to 20	%	ASTM D638

Break	10 to 20	%	ISO 527-2/1A/50
Flexural Modulus			
--	3800	MPa	ASTM D790
--	3900	MPa	ISO 178
Flexural Strength			
--	153	MPa	ASTM D790
--	134	MPa	ISO 178
Compressive Strength	123	MPa	ASTM D695
Shear Strength	95.1	MPa	ASTM D732
Poisson's Ratio	0.37		ASTM E132
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			
--	53	J/m	ASTM D256
--	4.9	kJ/m ²	ISO 180
Unnotched Izod Impact	No Break		ASTM D4812, ISO 180
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Annealed)	160	°C	ASTM D648
Glass Transition Temperature	147	°C	ASTM D3418
Peak Melting Temperature	343	°C	ASTM D3418
CLTE - Flow (-50 to 50°C)	5.0E-5	cm/cm/°C	ASTM E831
Specific Heat			DSC
50°C	1330	J/kg/°C	
200°C	1930	J/kg/°C	
Thermal Conductivity	0.25	W/m/K	ASTM E1530
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.9E+17	ohms	ASTM D257
Volume Resistivity	3.8E+17	ohms · cm	ASTM D257
Dielectric Strength (3.00 mm)	15	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.10		
1 kHz	3.01		
1 MHz	3.07		
Dissipation Factor			ASTM D150
60 Hz	1.0E-3		
1 kHz	1.0E-3		
1 MHz	3.0E-3		
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (400°C, 1000 sec ⁻¹)	150	Pa · s	ASTM D3835
Injection	Nominal Value	Unit	
Drying Temperature	150	°C	
Drying Time	4.0	hr	

Rear Temperature	355	°C
Middle Temperature	365	°C
Front Temperature	370	°C
Nozzle Temperature	375	°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"
2.	1.0 mm/min
3.	51 mm/min
4.	50 mm/min
5.	50 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

