

KetaSpire® KT-810FP

polyetheretherketone

KetaSpire® KT-810FP is the fine powder form of KT-810 resin. KT-810 is an ultra-high molecular weight natural PEEK resin having a melt viscosity ranging from 0.51-0.65 kPa-s as compared to 0.38-0.50 kPa-s for standard high-viscosity PEEK grades such as KT-820 and its fine powder analog KT-820FP. KetaSpire® PEEK is produced to the highest industry standards and is characterized by a distinct combination of properties, which include excellent chemical resistance to organics, acids and bases; exceptional retention of mechanical properties up to 300°C (572°F); best-in-class fatigue resistance; excellent wear resistance; ease of melt processing; and high purity. The KT-810 grade achieves a greater level of mechanical

toughness than previously possible with PEEK, yet it is still processable by conventional methods including extrusion, injection molding, and compression molding.

KetaSpire® KT-810FP is designed for compression molding applications such as machined parts and stock shapes wherein the fine powder form is easier to work with in a compression molding process. The KT-810FP comes with a median particle size that is typically in the 35-50 micrometers (µm) range.

The KT-810 grade is available for extrusion and injection molding processing in natural pellet form under the grade name KT-810 NT.

General

Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Additive	• Lubricant	
Features	• Autoclave Sterilizable • Chemical Resistant • Ductile • E-beam Sterilizable • Ethylene Oxide Sterilizable • Fatigue Resistant • Flame Retardant • Good Dimensional Stability • Good Impact Resistance	• Good Sterilizability • Heat Sterilizable • High Heat Resistance • Radiation (Gamma) Resistant • Radiation Sterilizable • Radiotranslucent • Steam Resistant • Steam Sterilizable
Uses	• Aircraft Applications • Automotive Applications • Connectors • Dental Applications • Electrical/Electronic Applications • Film • Gears • Hospital Goods • Housings	• Industrial Applications • Medical Devices • Medical/Healthcare Applications • Oil/Gas Applications • Pump Parts • Seals • Surgical Instruments • Tubing
Agency Ratings	• ISO 10993	• ISO 10993-1
RoHS Compliance	• RoHS Compliant	
Appearance	• Natural Color	

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Forms	• Powder	
Processing Method	• Compression Molding • Extrusion Blow Molding • Film Extrusion • Injection Molding	• Machining • Profile Extrusion • Thermoforming • Wire & Cable Extrusion

Physical	Typical Value	Unit	Test method
Density / Specific Gravity	1.29		ASTM D792
Water Absorption (24 hr)	0.10	%	ASTM D570
Particle Size			
Retention on 100 Mesh Sieve	0.00	%	
Retention on 140 Mesh Sieve	< 2.00	%	

Mechanical	Typical Value	Unit	Test method
Tensile Modulus	3500	MPa	ASTM D638
Tensile Strength (Yield)	94.5	MPa	ASTM D638
Tensile Elongation			ASTM D638
Yield	5.2	%	
Break	25 to 50	%	
Flexural Modulus	3700	MPa	ASTM D790
Flexural Strength	145	MPa	ASTM D790

Impact	Typical Value	Unit	Test method
Notched Izod Impact	100	J/m	ASTM D256
Unnotched Izod Impact	No Break		ASTM D4812

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Annealed, 3.20 mm	157	°C	

Fill Analysis	Typical Value	Unit	Test method
Melt Viscosity (400°C, 1000 sec ⁻¹)	510 to 650	Pa·s	ASTM D3835

Additional Information

The mechanical properties listed above were measured on injection molded ASTM test specimens.

Standard Packaging and Labeling

- KetaSpire® PEEK resins are packaged in polyethylene buckets or cardboard boxes depending upon the order size. Individual packages will be plainly marked with the product, color, lot number, and net weight.

Notes

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

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