

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-Part 1 |
| RoHS Compliance | • RoHS Compliant | |
| Appearance | • Natural Color | |
| Forms | • Powder | |
| Processing Method | • Compression Molding • Extrusion Blow Molding • Film Extrusion • Injection Molding | • Machining • Profile Extrusion • Thermoforming • Wire & Cable Extrusion |

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| 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.



Safety Data Sheets (SDS) are available by emailing us or contacting your sales representative. Always consult the appropriate SDS before using any of our products.

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