

# KetaSpire® KT-880 GF30

## polyetheretherketone

KetaSpire® KT-880 GF30 is the high-flow, 30% glass-fiber reinforced grade of polyetheretherketone (PEEK). This resin offers higher strength and stiffness properties relative to unreinforced KetaSpire® PEEK resin. Reinforcement also affords greater mechanical robustness in structural applications, particularly those with service temperatures approaching 300°C.

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.

- Beige: KT-880 GF30 BG 20
- Black: KT-880 GF30 BK 95

### General

Material Status	• Commercial: Active	
Availability	<ul style="list-style-type: none"> <li>• Africa &amp; Middle East</li> <li>• Asia Pacific</li> <li>• Europe</li> </ul>	<ul style="list-style-type: none"> <li>• Latin America</li> <li>• North America</li> </ul>
Filler / Reinforcement	• Glass Fiber, 30% Filler by Weight	
Features	<ul style="list-style-type: none"> <li>• Autoclave Sterilizable</li> <li>• Biocompatible</li> <li>• Chemical Resistant</li> <li>• E-beam Sterilizable</li> <li>• Ethylene Oxide Sterilizable</li> <li>• Fatigue Resistant</li> <li>• Flame Retardant</li> <li>• Good Dimensional Stability</li> <li>• Good Sterilizability</li> <li>• Heat Sterilizable</li> </ul>	<ul style="list-style-type: none"> <li>• High Flow</li> <li>• High Heat Resistance</li> <li>• High Stiffness</li> <li>• High Strength</li> <li>• Radiation (Gamma) Resistant</li> <li>• Radiation Sterilizable</li> <li>• Radiotranslucent</li> <li>• Steam Resistant</li> <li>• Steam Sterilizable</li> </ul>
Uses	<ul style="list-style-type: none"> <li>• Aircraft Applications</li> <li>• Connectors</li> <li>• Dental Applications</li> <li>• Electrical/Electronic Applications</li> <li>• Film</li> <li>• Hospital Goods</li> <li>• Industrial Applications</li> </ul>	<ul style="list-style-type: none"> <li>• Medical Devices</li> <li>• Medical/Healthcare Applications</li> <li>• Oil/Gas Applications</li> <li>• Pump Parts</li> <li>• Seals</li> <li>• Surgical Instruments</li> </ul>
Agency Ratings	<ul style="list-style-type: none"> <li>• FAA FAR 25.853a<sup>1</sup></li> <li>• ISO 10993<sup>2</sup></li> </ul>	• MIL P-46183 Type II Class 3
RoHS Compliance	• RoHS Compliant	
Appearance	• Light Beige	
Forms	• Pellets	
Processing Method	<ul style="list-style-type: none"> <li>• Injection Molding</li> <li>• Machining</li> </ul>	• Profile Extrusion

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Physical	Dry	Conditioned	Unit	Test method
Density / Specific Gravity	1.53	1.53		ASTM D792
Melt Mass-Flow Rate (MFR) (400°C/2.16 kg)	14	14 g/10 min		ASTM D1238
Molding Shrinkage <sup>3</sup>				ASTM D955
Flow : 3.18 mm	0.10 to 0.30	0.10 to 0.30 %		
Across Flow : 3.18 mm	1.3 to 1.5	1.3 to 1.5 %		
Water Absorption (24 hr)	0.10	0.10 %		ASTM D570
Mechanical	Dry	Conditioned	Unit	Test method
Tensile Modulus				
-- <sup>4</sup>	10800	10800 MPa		ASTM D638
--	11200	11200 MPa		ISO 527-1/1A/1
Tensile Stress				
Yield	174	174 MPa		ISO 527-2/1A/5
--	162	162 MPa		ASTM D638
Tensile Elongation				
Break <sup>4, 5</sup>	3.1	3.1 %		ASTM D638
Break	3.1	3.1 %		ISO 527-2/1A/5
Flexural Modulus				
--	10500	10500 MPa		ASTM D790
--	10600	10600 MPa		ISO 178
Flexural Strength				
--	260	260 MPa		ASTM D790
--	239	239 MPa		ISO 178
Compressive Strength	183	183 MPa		ASTM D695
Shear Strength	94.4	94.4 MPa		ASTM D732
Impact	Dry	Conditioned	Unit	Test method
Notched Izod Impact				
--	69	69 J/m		ASTM D256
--	11	11 kJ/m <sup>2</sup>		ISO 180
Unnotched Izod Impact				
--	850	850 J/m		ASTM D4812
--	62	62 kJ/m <sup>2</sup>		ISO 180
Hardness	Dry	Conditioned	Unit	Test method
Rockwell Hardness (M-Scale)	105	105		ASTM D785

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Thermal	Dry	Conditioned	Unit	Test method
Deflection Temperature Under Load				ASTM D648
1.8 MPa, Annealed	315	315 °C		
Glass Transition Temperature	147	147 °C		ASTM D3418
Peak Melting Temperature	343	343 °C		ASTM D3418
CLTE - Flow (-50 to 50°C)	1.9E-5	1.9E-5 cm/cm/°C		ASTM E831
Specific Heat				DSC
50°C	1280	1280 J/kg/°C		
200°C	1700	1700 J/kg/°C		
Thermal Conductivity	0.30	0.30 W/m/K		ASTM E1530
Electrical	Dry	Conditioned	Unit	Test method
Surface Resistivity	> 1.9E+17	> 1.9E+17 ohms		ASTM D257
Volume Resistivity	3.8E+17	3.8E+17 ohms·cm		ASTM D257
Dielectric Strength (3.00 mm)	16	16 kV/mm		ASTM D149
Dielectric Constant				ASTM D150
60 Hz	3.53	3.53		
1 kHz	3.53	3.53		
1 MHz	3.49	3.49		
Dissipation Factor				ASTM D150
60 Hz	2.0E-3	2.0E-3		
1 kHz	2.0E-3	2.0E-3		
1 MHz	4.0E-3	4.0E-3		
Flammability	Dry	Conditioned	Unit	Test method
Flame Rating				UL 94
0.8 mm	V-0	V-0		
1.6 mm	V-0	V-0		
Fill Analysis	Dry	Conditioned	Unit	Test method
Melt Viscosity (400°C, 1000 sec <sup>-1</sup> )	350	350 Pa·s		ASTM D3835
Injection	Dry			Unit
Drying Temperature				150 °C
Drying Time				4.0 hr
Rear Temperature				365 °C
Middle Temperature				371 °C
Front Temperature				377 °C
Nozzle Temperature				382 °C
Mold Temperature				177 to 204 °C
Injection Rate				Fast
Screw Compression Ratio				2.5:1.0 to 3.5:1.0

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## Notes

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

<sup>1</sup> Passes 60s VB flame, smoke and toxicity requirements.

<sup>2</sup> Only KetaSpire® KT-880 GF30 BG20 is ISO 10993 tested

<sup>3</sup> 5" x 0.5" x 0.125"

<sup>4</sup> 5.0 mm/min

<sup>5</sup> Crystallized

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