KetaSpire® KT-880 GF20
polyetheretherketone

KetaSpire® KT-880 GF20 is a high flow, 20% glass-fiber reinforced grade of polyetheretherketone (PEEK). This resin offers higher strength and stiffness properties relative to unreinforced KetaSpire® PEEK resin. The glass fiber content is optimized to provide a balance of strength and stiffness with toughness-related properties, such as impact resistance and elongation at break. This level of reinforcement also affords greater mechanical robustness in structural applications, particularly those with service temperatures approaching 240°C (464°F).

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

Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Glass Fiber, 20% Filler by Weight	
Features	• Autoclave Sterilizable • Biocompatible • Chemical Resistant • E-beam Sterilizable • Ethylene Oxide Sterilizable • Fatigue Resistant • Flame Retardant • Good Dimensional Stability • Good Sterilizability • Heat Sterilizable	• High Flow • High Heat Resistance • High Stiffness • High Strength • Radiation (Gamma) Resistant • Radiation Sterilizable • Radiotranslucent • Steam Resistant • Steam Sterilizable
Uses	• Aircraft Applications • Automotive 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	• MIL P-46183 Type II Class 2	
RoHS Compliance	• Contact Manufacturer	
Appearance	• Tan	
Forms	• Pellets	
Processing Method	• Injection Molding	

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Physical	Typical Value	Unit	Test method
Density	1.46	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (400°C/2.16 kg)	18	g/10 min	ASTM D1238
Water Absorption (24 hr)	0.022	%	ISO 15512
Ash Content	20	%	ISO 3451-1

Mechanical	Typical Value	Unit	Test method
Tensile Modulus			
--	8200	MPa	ASTM D638
--	8300	MPa	ISO 527-1
Tensile Strength			
Break	152	MPa	ASTM D638
Break	162	MPa	ISO 527-2
Tensile Elongation			
Break	3.7	%	ASTM D638
Break	3.5	%	ISO 527-2/1A/5
Flexural Modulus			
--	7860	MPa	ASTM D790
--	7720	MPa	ISO 178
Flexural Strength			
--	254	MPa	ASTM D790
--	238	MPa	ISO 178
Modulus of Elasticity			
--	8.24	GPa	ISO 527
--	8.34	GPa	ASTM D638

Impact	Typical Value	Unit	Test method
Charpy Unnotched Impact Strength	60	kJ/m²	ISO 179
Notched Izod Impact			
--	60	J/m	ASTM D256
--	6.0	kJ/m²	ISO 180
Unnotched Izod Impact	770	J/m	ASTM D4812

Hardness	Typical Value	Unit	Test method
Rockwell Hardness (M-Scale)	103		ASTM D785

Thermal	Typical Value	Unit	Test method
Melting Temperature [1]	345	°C	ISO 11357

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Electrical	Typical Value	Unit	Test method
Surface Resistivity	5.0E+15	ohms	ASTM D257
Volume Resistivity	7.0E+15	ohms·cm	ASTM D257
Dielectric Strength (3.00 mm)	16	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.34		
1 kHz	3.35		
1 MHz	3.35		
Dissipation Factor			ASTM D150
60 Hz	2.0E-3		
1 kHz	1.0E-3		
1 MHz	4.0E-3		

Fill Analysis	Typical Value	Unit	Test method
Melt Viscosity (400°C, 1000 sec^-1)	280	Pa·s	ASTM D3835

Injection	Typical Value	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	

Notes
Typical properties: these are not to be construed as specifications.
[1] DSC First heat

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