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	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Glass Fiber, 30% 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 • 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	• FAA FAR 25.853a [1] • ISO 10993 [2]	• MIL P-46183 Type II Class 3
RoHS Compliance	• RoHS Compliant	
Appearance	• Light Beige	
Forms	• Pellets	
Processing Method	• Injection Molding • Machining	• Profile Extrusion

Physical	Typical Value	Unit	Test method
Density / Specific Gravity	1.53		ASTM D792
Melt Mass-Flow Rate (MFR) (400°C/2.16 kg)	14	g/10 min	ASTM D1238
Molding Shrinkage [3]			ASTM D955
Flow : 3.18 mm	0.10 to 0.30	%	
Across Flow : 3.18 mm	1.3 to 1.5	%	
Water Absorption (24 hr)	0.10	%	ASTM D570

Mechanical	Typical Value	Unit	Test method
Tensile Modulus			
-- [4]	10800	MPa	ASTM D638
--	11200	MPa	ISO 527-1/1A/1
Tensile Stress			
Yield	174	MPa	ISO 527-2/1A/5
--	162	MPa	ASTM D638
Tensile Elongation			
Break [4, 5]	3.1	%	ASTM D638
Break	3.1	%	ISO 527-2/1A/5
Flexural Modulus			
--	10500	MPa	ASTM D790
--	10600	MPa	ISO 178
Flexural Strength			
--	260	MPa	ASTM D790
--	239	MPa	ISO 178
Compressive Strength	183	MPa	ASTM D695
Shear Strength	94.4	MPa	ASTM D732

Impact	Typical Value	Unit	Test method
Notched Izod Impact			
--	69	J/m	ASTM D256
--	11	kJ/m²	ISO 180
Unnotched Izod Impact			
--	850	J/m	ASTM D4812
--	62	kJ/m²	ISO 180

Hardness	Typical Value	Unit	Test method
Rockwell Hardness (M-Scale)	105		ASTM D785

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Annealed	315	°C	
Glass Transition Temperature	147	°C	ASTM D3418
Peak Melting Temperature	343	°C	ASTM D3418
CLTE - Flow (-50 to 50°C)	1.9E-5	cm/cm/°C	ASTM E831
Specific Heat			DSC
50°C	1280	J/kg/°C	
200°C	1700	J/kg/°C	
Thermal Conductivity	0.30	W/m/K	ASTM E1530

Electrical	Typical 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)	16	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.53		
1 kHz	3.53		
1 MHz	3.49		
Dissipation Factor			ASTM D150
60 Hz	2.0E-3		
1 kHz	2.0E-3		
1 MHz	4.0E-3		

Flammability	Typical Value	Unit	Test method
Flame Rating			UL 94
0.8 mm	V-0		
1.6 mm	V-0		

Fill Analysis	Typical Value	Unit	Test method
Melt Viscosity (400°C, 1000 sec^-1)	350	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	

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Notes

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

[1] Passes 60s VB flame, smoke and toxicity requirements.

[2] Only KetaSpire® KT-880 GF30 BG20 is ISO 10993 tested

[3] 5" x 0.5" x 0.125"

[4] 5.0 mm/min

[5] Crystallized

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