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

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • North America	• South America
Filler / Reinforcement	• Glass Fiber Reinforcement, 30% Filler by Weight		
Features	• Autoclave Sterilizable • Biocompatible • E-beam Sterilizable • Ethylene Oxide Sterilizable • Fatigue Resistant • Flame Retardant • Good Chemical Resistance	• 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 Appliances • Medical/Healthcare Applications • Oil/Gas Applications	• Pump Parts • Seals • Surgical Instruments
Agency Ratings	• ISO 10993	• ISO 10993-Part 1	
RoHS Compliance	• RoHS Compliant		
Appearance	• Light Beige		
Forms	• Pellets		
Processing Method	• Injection Molding	• Machining	• Profile Extrusion

Physical	Typical Value	Unit	Test Method
Specific Gravity	1.53	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (400°C/2.16 kg)	14	g/10 min	ASTM D1238
Molding Shrinkage [1]			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			
--[2]	10800	MPa	ASTM D638
--	11200	MPa	ISO 527-2/1A/1
Tensile Stress			
Yield	174	MPa	ISO 527-2/1A/5
--	162	MPa	ASTM D638
Tensile Elongation			
Break[2, 3]	2.8	%	ASTM D638
Break	2.8	%	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 (DSC)	147	°C	ASTM D3418
Peak Melting Temperature	343	°C	ASTM D3418
CLTE - Flow (-50 to 50°C)	0.000019	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	ohm	ASTM D257
Volume Resistivity	3.8E+17	ohm·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	0.0020		
1 kHz	0.0020		
1 MHz	0.0040		

Flammability	Typical Value	Unit	Test Method
Flame Rating			UL 94
0.800 mm	V-0		
1.60 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	

Notes

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

[1] 5" x 0.5" x 0.125"

[2] 5.0 mm/min

[3] Crystallized

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