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 • 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 Devices • Medical/Healthcare Applications • Oil/Gas Applications	• Pump Parts • Seals • Surgical Instruments
Agency Ratings	• FAA FAR 25.853a [1]	• ISO 10993 [2]	
RoHS Compliance	• RoHS Compliant		
Appearance	• Light Beige		
Forms	• Pellets		
Processing Method	• Injection Molding	• Machining	• Profile Extrusion

Physical	Dry	Conditioned	Unit	Test method
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 [3]				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

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Mechanical	Dry	Conditioned	Unit	Test method
Tensile Modulus				
-- [4]	10800	10800	MPa	ASTM D638
--	11200	11200	MPa	ISO 527-2/1A/1
Tensile Stress				
Yield	174	174	MPa	ISO 527-2/1A/5
--	162	162	MPa	ASTM D638
Tensile Elongation				
Break [4, 5]	2.8	2.8	%	ASTM D638
Break	2.8	2.8	%	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				
--	96	96	J/m	ASTM D256
--	11	11	kJ/m²	ISO 180
Unnotched Izod Impact				
--	850	850	J/m	ASTM D4812
--	62	62	kJ/m²	ISO 180

Hardness	Dry	Conditioned	Unit	Test method
Rockwell Hardness (M-Scale)	105	105		ASTM D785

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		

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Electrical	Dry	Conditioned	Unit	Test method
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
0.800 mm	V-0	V-0		
1.60 mm	V-0	V-0		

Fill Analysis	Dry	Conditioned	Unit	Test method
Melt Viscosity (400°C, 1000 sec^-1)	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	

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 certified

[3] 5" x 0.5" x 0.125"

[4] 5.0 mm/min

[5] Crystallized

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