KetaSpire® XT-920 GF30
polyetheretherketone

KetaSpire® XT-920 GF30 is a 30% glass fiber reinforced, natural color grade of the industry's first true a high-temperature PEEK. Glass fiber reinforcement provides higher strength and stiffness properties than unreinforced KetaSpire® XT-920 resin, making it suitable for structural applications needing robust mechanical properties, particularly those with service temperatures approaching 300°C.

The PEEK designation is based on the 2:1 ratio of ether-to-ketone functional groups in the polymer backbone. The material provides the exceptional chemical resistance of PEEK along with a 20°C (36°F) higher glass transition temperature and a 45°C (81°F) higher melting temperature than standard PEEK. This increase in thermal performance allows engineers to achieve higher mechanical strength for components used in higher temperature and higher pressure operating environments.

Although other high-temperature polyketones exhibit thermal properties on par with KetaSpire® XT, their chemical resistance is significantly inferior to standard PEEK and KetaSpire® XT. The material's unique combination of properties makes KetaSpire® XT well-suited for applications in oil & gas, transportation, electronics, chemical processing, and other industrial uses.

General		
Material Status	• Commercial: Active	
Availability	• Asia Pacific • Europe	• North America
Filler / Reinforcement	• Glass Fiber, 30% Filler by Weight	
Features	• Chemical Resistant • Fatigue Resistant • Flame Retardant • Good Dimensional Stability	• Good Impact Resistance • High Heat Resistance • Radiotranslucent • Steam Resistant
Uses	• Aircraft Applications • Automotive Applications • Connectors • Electrical/Electronic Applications • Housings	• Industrial Applications • Oil/Gas Applications • Pump Parts • Seals
RoHS Compliance	• RoHS Compliant	
Appearance	• Beige	
Forms	• Pellets	
Processing Method	• Injection Molding • Machining	• Profile Extrusion

Physical	Typical Value	Unit	Test method
Density / Specific Gravity	1.51		ASTM D792
Melt Mass-Flow Rate (MFR) (420°C/2.16 kg)	3.5	g/10 min	ASTM D1238
Molding Shrinkage[1]			ASTM D955
Flow : 2.00 mm	0.30 to 0.50	%	
Across Flow : 2.00 mm	1.0 to 1.2	%	

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Mechanical	Typical Value	Unit	Test method
Tensile Modulus			
-- [2]	10400	MPa	ASTM D638
--	10700	MPa	ISO 527-1/1A
Tensile Strength			
Break [2]	156	MPa	ASTM D638
Break	165	MPa	ISO 527-2/1A/5
Tensile Elongation			
Break [2]	3.0	%	ASTM D638
Break	3.0	%	ISO 527-2
Flexural Modulus			
--	9900	MPa	ASTM D790
--	10300	MPa	ISO 178
Flexural Strength			
--	243	MPa	ASTM D790
--	258	MPa	ISO 178
Compressive Strength	166	MPa	ASTM D695
Shear Strength	91.0	MPa	ASTM D732

Impact	Typical Value	Unit	Test method
Notched Izod Impact			
--	110	J/m	ASTM D256
--	12	kJ/m²	ISO 180
Unnotched Izod Impact			
--	950	J/m	ASTM D4812
--	56	kJ/m²	ISO 180

Hardness	Typical Value	Unit	Test method
Rockwell Hardness (M-Scale)	101		ASTM D785
Durometer Hardness (Shore D, 1 sec)	87		ASTM D2240

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load [3]			ASTM D648
1.8 MPa, Annealed	332	°C	
Glass Transition Temperature	170	°C	ASTM D3418
Peak Melting Temperature	385	°C	ASTM D3418
CLTE - Flow (-50 to 50°C)	1.7E-5	cm/cm/°C	ASTM E831

Electrical	Typical Value	Unit	Test method
Dielectric Strength (1.60 mm)	23	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.38		
1 kHz	3.37		
1 MHz	3.33		
Dissipation Factor			ASTM D150
60 Hz	1.0E-3		
1 kHz	1.0E-3		
1 MHz	2.0E-3		

Flammability	Typical Value	Unit	Test method
Flame Rating [4]			UL 94
0.8 mm	V-0		
1.6 mm	V-0		

Fill Analysis	Typical Value	Unit	Test method
Melt Viscosity (420°C, 1000 sec^-1)	670	Pa·s	ASTM D3835

Injection	Typical Value	Unit
Drying Temperature	150	°C
Drying Time	4.0	hr
Rear Temperature	405	°C
Middle Temperature	405	°C
Front Temperature	410	°C
Nozzle Temperature	410	°C
Mold Temperature	205 to 230	°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] 60mm x 60mm x 2mm

[2] 5.0 mm/min

[3] 2 hours at 230°C

[4] Based on internal testing of base resin. UL certification is pending.

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