KetaSpire® KT-820 CF20
polyetheretherketone

PRELIMINARY DATA SHEET (data subject to change due to limited production history)

KetaSpire® KT-820 CF20 is a 20% chopped carbon fiber-reinforced polyetheretherketone (PEEK.) The carbon fiber content in the formulation is optimized to provide a balance of strength and stiffness, on one hand, with toughness-related properties, such as impact resistance and elongation at break, on the other. The resin enjoys all the key performance attributes for which PEEK is known. These include resistance to harsh chemical environments, high heat resistance (both short and long term) and excellent fatigue resistance. By virtue of the reduced carbon fiber loading, the resin also offers improved surface aesthetics and reduced anisotropy over comparable 30% carbon fiber-reinforced formulations.

This resin is a low flow/high viscosity grade and is suitable for use in both injection molding and extrusion fabrication. It can be melt processed using standard thermoplastic melt processing equipment.

Potential application areas for KT-820 CF20 include uses in the oil and gas recovery industry, in chemical processing and in other industrial uses where a balance of part stiffness and toughness is required, such as semiconductor fabrication, automotive, aerospace and healthcare industries.

General

Material Status	• Limited Distribution	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Carbon Fiber, 20% Filler by Weight	
Features	• Autoclave Sterilizable • Chemical Resistant • E-beam Sterilizable • Ethylene Oxide Sterilizable • Fatigue Resistant • Flame Retardant • Good Dimensional Stability • Good Sterilizability • Heat Sterilizable	• High Heat Resistance • High Stiffness • High Strength • Radiation (Gamma) Resistant • Radiation Sterilizable • Radiotranslucent • Steam Resistant • Steam Sterilizable
Uses	• Automotive Applications • Connectors • Dental Applications • Electrical/Electronic Applications • Gears • Hospital Goods • Industrial Applications	• Medical Devices • Medical/Healthcare Applications • Oil/Gas Applications • Pump Parts • Surgical Instruments • Thrust Washer
RoHS Compliance	• RoHS Compliant	
Appearance	• Black	
Forms	• Pellets	
Processing Method	• Injection Molding • Machining	• Profile Extrusion

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Physical	Typical Value	Unit	Test method
Density / Specific Gravity	1.37		ASTM D792

Mechanical	Typical Value	Unit	Test method
Tensile Modulus [1]	15400	MPa	ASTM D638
Tensile Strength	187	MPa	ASTM D638
Tensile Elongation [1] (Break)	2.7	%	ASTM D638
Flexural Modulus	13800	MPa	ASTM D790
Flexural Strength	299	MPa	ASTM D790

Impact	Typical Value	Unit	Test method
Notched Izod Impact	85	J/m	ASTM D256
Unnotched Izod Impact	690	J/m	ASTM D4812

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Annealed	310	°C	

Fill Analysis	Typical Value	Unit	Test method
Melt Viscosity (400°C, 1000 sec^-1)	700	Pa·s	ASTM D3835

Injection	Typical Value	Unit
Drying Temperature	150	°C
Drying Time	4.0	hr
Rear Temperature	365	°C
Middle Temperature	370	°C
Front Temperature	375	°C
Nozzle Temperature	380	°C
Mold Temperature	175 to 205	°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] 5.0 mm/min

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