



KetaSpire® KT-880

polyetheretherketone

KetaSpire® KT-880 is a high flow grade of unreinforced polyetheretherketone (PEEK) supplied in pellet form. 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. KetaSpire® KT-880 NT can be

easily processed using typical injection molding processes. This resin is also available as KT-880P in a natural-color coarse powder form for compounding.

Pellets of KT-880 are supplied lightly dusted with the lubricant calcium stearate (0.01% level) to aid with pellet conveyance in plastication screws. The equivalent unlubricated natural color grade of high flow KetaSpire® is available as KT-880 NL.

- Black: KT-880 BK 95
- Natural: KT-880 NT

General

Material Status	<ul style="list-style-type: none"> • Commercial: Active 	
Availability	<ul style="list-style-type: none"> • Africa & Middle East • Asia Pacific • Europe 	<ul style="list-style-type: none"> • Latin America • North America
Features	<ul style="list-style-type: none"> • Autoclave Sterilizable • Biocompatible • Chemical Resistant • Ductile • E-beam Sterilizable • Ethylene Oxide Sterilizable • Fatigue Resistant • Flame Retardant • Good Dimensional Stability • Good Impact Resistance 	<ul style="list-style-type: none"> • Good Sterilizability • Heat Sterilizable • High Flow • High Heat Resistance • Radiation (Gamma) Resistant • Radiation Sterilizable • Radiotranslucent • Steam Resistant • Steam Sterilizable
Uses	<ul style="list-style-type: none"> • Aircraft Applications • Connectors • Dental Applications • Electrical/Electronic Applications • Film • Hospital Goods • Industrial Applications 	<ul style="list-style-type: none"> • Medical Devices • Medical/Healthcare Applications • Oil/Gas Applications • Pump Parts • Seals • Surgical Instruments
Agency Ratings	<ul style="list-style-type: none"> • ISO 10993 • MIL P-46183 Type I 	<ul style="list-style-type: none"> • NSF STD-51 ¹ • USP Class VI ²
RoHS Compliance	<ul style="list-style-type: none"> • RoHS Compliant 	
Appearance	<ul style="list-style-type: none"> • Black 	<ul style="list-style-type: none"> • Natural Color
Forms	<ul style="list-style-type: none"> • Pellets³ 	

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Processing Method	<ul style="list-style-type: none"> • Extrusion Blow Molding • Fiber (Spinning) Extrusion • Film Extrusion • Injection Molding 	<ul style="list-style-type: none"> • Machining • Profile Extrusion • Thermoforming • Wire & Cable Extrusion
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Physical	Typical Value	Unit	Test method
Density / Specific Gravity	1.30		ASTM D792
Melt Mass-Flow Rate (MFR) (400°C/2.16 kg)	36	g/10 min	ASTM D1238
Molding Shrinkage ⁴			ASTM D955
Flow	0.014 to 0.016	in/in	
Across Flow	0.015 to 0.017	in/in	
Water Absorption (24 hr)	0.10	%	ASTM D570

Mechanical	Typical Value	Unit	Test method
Tensile Modulus			
-- ⁵	537000	psi	ASTM D638
--	580000	psi	ISO 527-1/1A/1
Tensile Stress			
Yield	14800	psi	ISO 527-2/1A/50
-- ⁶	14500	psi	ASTM D638
Tensile Elongation			
Yield ⁶	5.2	%	ASTM D638
Yield	5.0	%	ISO 527-2/1A/50
Break ⁶	10 to 20	%	ASTM D638
Break	10 to 20	%	ISO 527-2/1A/50
Flexural Modulus			
--	551000	psi	ASTM D790
--	566000	psi	ISO 178
Flexural Strength			
--	22200	psi	ASTM D790
--	19400	psi	ISO 178
Compressive Strength	17800	psi	ASTM D695
Shear Strength	13800	psi	ASTM D732
Poisson's Ratio	0.37		ASTM E132

Impact	Typical Value	Unit	Test method
Notched Izod Impact			
--	0.99	ft-lb/in	ASTM D256
--	2.3	ft-lb/in ²	ISO 180
Unnotched Izod Impact	No Break		ASTM D4812 ISO 180

Hardness	Typical Value	Unit	Test method
Rockwell Hardness (M-Scale)	102		ASTM D785

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Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load 264 psi, Annealed	320	°F	ASTM D648
Glass Transition Temperature	297	°F	ASTM D3418
Peak Melting Temperature	649	°F	ASTM D3418
CLTE - Flow (-58 to 122°F)	2.8E-5	in/in/°F	ASTM E831
Specific Heat			DSC
122°F	0.318	Btu/lb/°F	
392°F	0.461	Btu/lb/°F	
Thermal Conductivity	1.7	Btu·in/hr/ft ² /°F	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 (0.118 in)	380	V/mil	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.10		
1 kHz	3.01		
1 MHz	3.07		
Dissipation Factor			ASTM D150
60 Hz	1.0E-3		
1 kHz	1.0E-3		
1 MHz	3.0E-3		
Flammability	Typical Value	Unit	Test method
Flame Rating (> 0.12 in, Natural)	V-0		UL 94

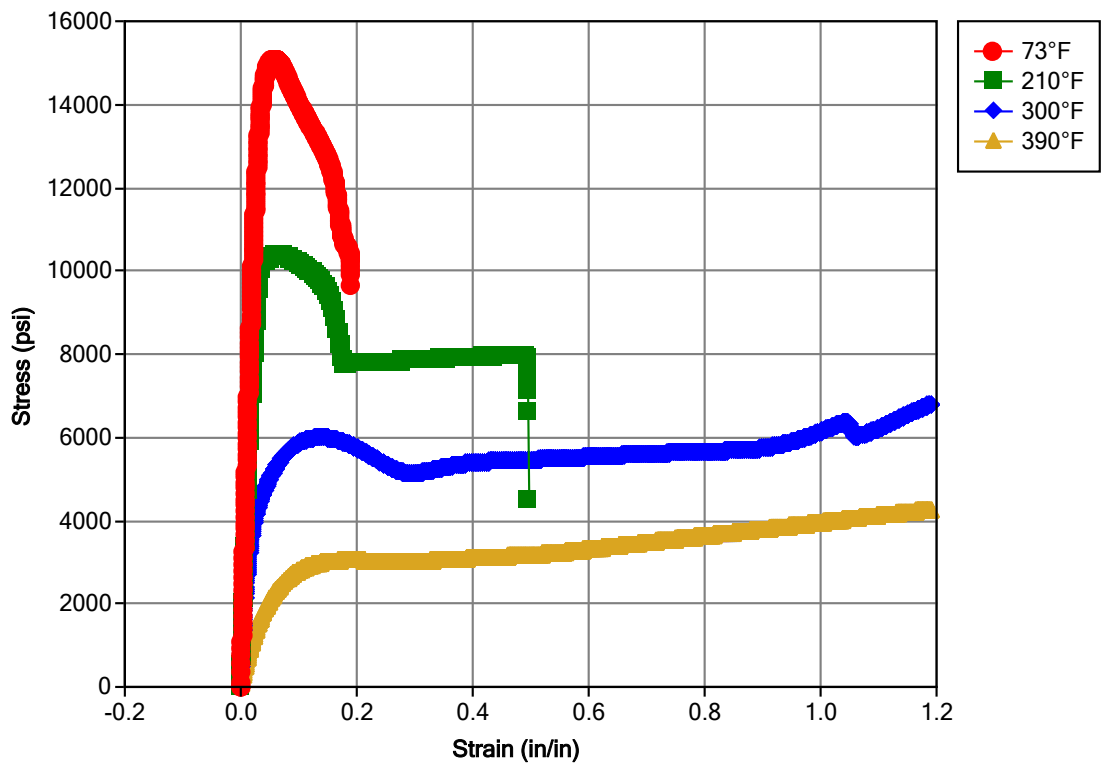
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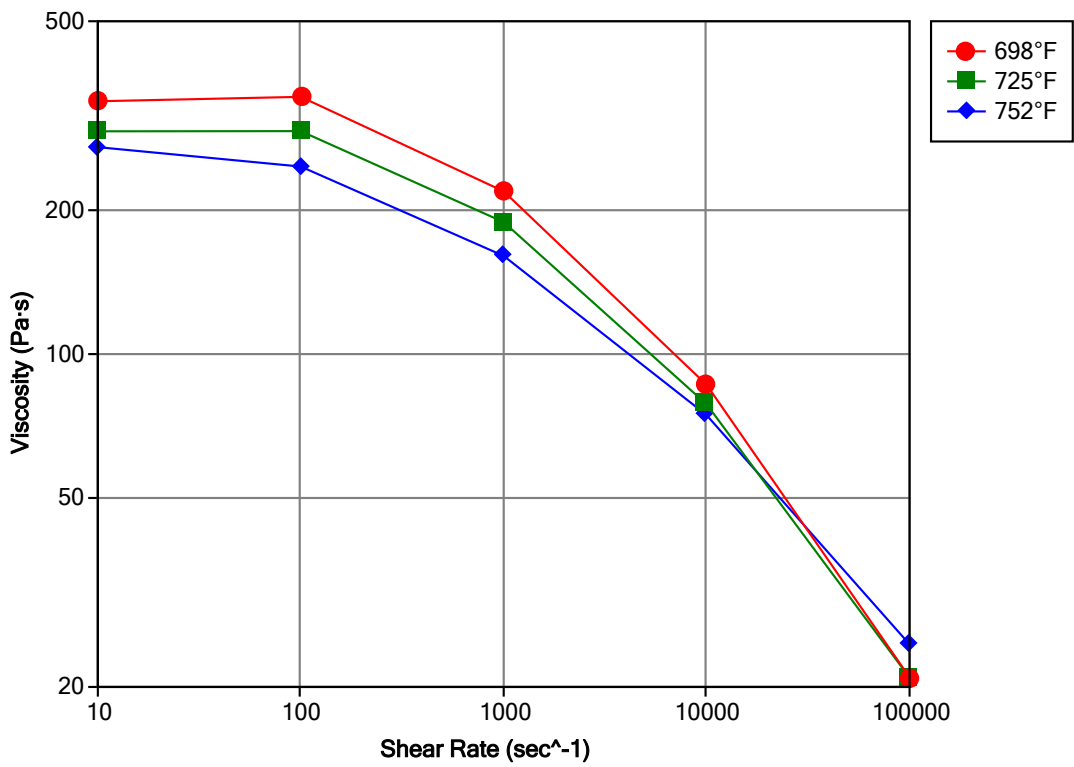
Fill Analysis	Typical Value	Unit	Test method
Melt Viscosity (752°F, 1000 sec ⁻¹)	150	Pa·s	ASTM D3835

Injection	Typical Value	Unit
Drying Temperature	302	°F
Drying Time	4.0	hr
Rear Temperature	671	°F
Middle Temperature	689	°F
Front Temperature	698	°F
Nozzle Temperature	707	°F
Mold Temperature	347 to 401	°F
Injection Rate	Fast	
Screw Compression Ratio	2.5:1.0 to 3.5:1.0	

Isothermal Stress vs. Strain (ISO 11403)



Viscosity vs. Shear Rate (ISO 11403)



Notes

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

¹ Only KT-880 NT has been NSF STD-51 certified.

² KT-880 NT only

³ Pellets are supplied lightly dusted with the lubricant calcium stearate (0.01% level). For non-lubricated, natural color grade, order KT-880 NL.

⁴ 5" x 0.5" x 0.125" (127 x 12.7 x 3.18mm)

⁵ 0.039 in/min

⁶ 2.0 in/min



Progress beyond

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