

KetaSpire® KT-880

Polyetheretherketone
Solvay Specialty Polymers

Message:

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 Information	
UL YellowCard	E140728-100211983
Features	Autoclave Sterilizable
	Biocompatible
	Ductile
	E-beam Sterilizable
	Ethylene Oxide Sterilizable
	Fatigue Resistant
	Flame Retardant
	Good Chemical Resistance
	Good Dimensional Stability
	Good Impact Resistance
	Good Sterilizability
	Heat Sterilizable
	High Flow
	High Heat Resistance
	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	ISO 10993
	ISO 10993-Part 1

RoHS Compliance	RoHS Compliant
Appearance	Black
	Natural Color

Forms	Pellets 3
Processing Method	Extrusion Blow Molding
	Fiber (Spinning) Extrusion
	Film Extrusion
	Injection Molding
	Machining
	Profile Extrusion
	Thermoforming
	Wire & Cable Extrusion

Multi-Point Data	Isothermal Stress vs. Strain (ISO 11403-1)
	Viscosity vs. Shear Rate (ISO 11403-2)

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.30	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (400°C/2.16 kg)	36	g/10 min	ASTM D1238
Molding Shrinkage ¹			ASTM D955
Flow : 0.318 mm	1.4 to 1.6	%	
Across Flow : 3.18 mm	1.5 to 1.7	%	
Water Absorption (24 hr)	0.10	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	102		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ²	3700	MPa	ASTM D638
--	4000	MPa	ISO 527-2/1A/1

Tensile Stress			
Yield	102	MPa	ISO 527-2/1A/50
-- ³	100	MPa	ASTM D638
Tensile Elongation			
Yield ⁴	5.2	%	ASTM D638
Yield	5.0	%	ISO 527-2/1A/50
Break ⁵	10 to 20	%	ASTM D638
Break	10 to 20	%	ISO 527-2/1A/50
Flexural Modulus			
--	3800	MPa	ASTM D790
--	3900	MPa	ISO 178
Flexural Strength			
--	153	MPa	ASTM D790
--	134	MPa	ISO 178
Compressive Strength	123	MPa	ASTM D695
Shear Strength	95.1	MPa	ASTM D732
Poisson's Ratio	0.37		ASTM E132
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			
--	53	J/m	ASTM D256
--	4.9	kJ/m ²	ISO 180
Unnotched Izod Impact	No Break		ASTM D4812, ISO 180
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Annealed)	160	°C	ASTM D648
Glass Transition Temperature	147	°C	ASTM D3418
Peak Melting Temperature	343	°C	ASTM D3418
CLTE - Flow (-50 to 50°C)	5.0E-5	cm/cm/°C	ASTM E831
Specific Heat			DSC
50°C	1330	J/kg/°C	
200°C	1930	J/kg/°C	
Thermal Conductivity	0.25	W/m/K	ASTM E1530
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.9E+17	ohms	ASTM D257
Volume Resistivity	3.8E+17	ohms · cm	ASTM D257
Dielectric Strength (3.00 mm)	15	kV/mm	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	Nominal Value	Unit	Test Method
Flame Rating (> 3.00 mm, Natural)	V-0		UL 94
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (400°C, 1000 sec ⁻¹)	150	Pa·s	ASTM D3835
Injection	Nominal Value	Unit	
Drying Temperature	150	°C	
Drying Time	4.0	hr	
Rear Temperature	355	°C	
Middle Temperature	365	°C	
Front Temperature	370	°C	
Nozzle Temperature	375	°C	
Mold Temperature	175 to 205	°C	
Injection Rate	Fast		
Screw Compression Ratio	2.5:1.0 to 3.5:1.0		
NOTE			
1.	5" x 0.5" x 0.125"		
2.	1.0 mm/min		
3.	51 mm/min		
4.	50 mm/min		
5.	50 mm/min		

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