

Peek-All Specs

				Ketron PEEK	Victrax PEEK 450G	Ketron PEEK	30% Glass Filled Ketron PEEK	30% Glass Filled Ketron PEEK	Victrax PEEK 450GL30	30% Carbon Filled Ketron PEEK	30% Carbon Filled Ketron PEEK	Victrax PEEK 450CA30	Ketron PEEK HPV	Victrax PEEK Optima LT	
		Units	ASTM Test Method	Compression Molded Poly-etheretherketone	Injection Molded Poly-etheretherketone	Extruded Polyether-etherketone	Compression Molded 30% GF PEEK	Extruded 30% Glass Filled PEEK	Injection Molded 30% GF PEEK	Compression Molded 30% CF PEEK	Extruded 30% Carbon Filled PEEK	Injection Molded 30% CF PEEK	Bearing Grade Polyether-etherketone	Injection Molded Poly-etheretherketone	
MECHANICAL	Strength to Weight Ratio	ksi													
	Specific Gravity @73 F		D792	1.32	1.30	1.31	1.45	1.54	1.50	1.42	1.41	1.41	1.44	1.30	
	Tensile Strength @73 F, (ult)(yld)	psi	D638	15000 (ult)	14100 (ult)	16000 (ult)	17000 (ult)	18000 (ult)	22620 (ult)	20000 (ult)	23200 (ult)	33785 (ult)	17400	14100 (ult)	
	Tensile Modulus of Elasticity @ 73 F	psi	D638	450000	522000	500000	750000	1000000	1407000	800000	1400000	1885000	1100000	522000	
	Tensile Elongation at Break @ 73 F	%	D638	1.0	5	20	3	3	2.0	2.0	3	2	3	5	
	Flexural Strength @ 73 F	psi	D790	25000	24650	25000	28000	28000	33785	30000			51475		24650
	Flexural Modulus of Elasticity @ 73 F	psi	D790	600000	594500	600000	1000000	1000000	1450000	1300000			2929000		594500
	Shear Strength @ 73 F	psi	D732		7685 (ult)	8000			14000	14065 (ult)			14065 (ult)		7685 (ult)
	Compressive Strength, (% Deformation) @73 F	psi	D695		17000 (10)	17255 (10)	20000 (10)	19000 (10)	26000 (10)	31175 (10)	25000 (10)	29000 (10)	34800 (10)	21800 (10)	17255 (10)
	Compressive Modulus of Elasticity @73 F	psi	D695		450000		500000	500000	1000000		550000				
	Hardness, Rockwell, Scale as noted @73 F		D785	M99 (R126)	M99 (R126)	M100 (R126)	M103 (R124)	M103 (R126)	M103(R124)	M97 (R125)	M104	M107 (R124)	M99	M99 (R126)	
	Hardness, Durometer, Shore D @73 F		D2240	D85		D85	D86	D86		D86					
	Izod Impact, (Notched) @73 F	ft-lb/in of notch	D256 TypeA	1.0	1.6	1.0	1.4	1.4	1.8	1.4	1.0	1.6	0.7	1.6	
	Coefficient of Friction, (Dry vs. Steel) Dynamic				0.40		0.40				0.19			0.24	
Limiting PV, (with 4 to 1 factor of safety applied)	psi-ft/min			12500		5500				25000	25000		13000		
THERMAL	Coefficient of Linear Thermal Expansion @73 F	in/in/F	E-831 (TMA)	2.6E-05	2.6E-05	2.6E-05	1.4E-05	1.2E-05	1.2E-05	1.7E-05	1.0E-05	8.0E-06	1.4E-05	2.6E-05	
	Heat Deflection Temperature @ 264 psi	F	D648	320	306	320	600	600	600	600	518	600	446	306	
	Tg-Glass transition temperature, (Amorphous)	F	D3418		289				289		289	289	289	289	
	Melting Point, (VS=Vicat Softening Temp.)	F	D3418	644	644	644	644	644	644	644	644	644	644	644	
	Continuous Service Temperature in Air, (Max.)	F		480	480	480	480	480	480	480	482	480	482	480	
	Thermal Conductivity	BTU-in/hr-ft ² -F		1.75	1.75	1.75	2.98	2.98	2.98	6.37	6.40	6.37	1.70	1.75	
ELECTRICAL	Dielectric Strength, Short Term	Volts/mil	D149	480	480	480	500	500	500		32			480	
	Volume Resistivity	ohm-cm	D257	4.9E+16	4.9E+16	4.9E+16	5.0E+16	5.0E+16	1.0E+16		1.0E+06	1.4E+05	<1E8	4.9E+16	
	Dielectric Constant @ 10E6 Hz		D150	3.3	3.3	3.3			3.7					3.3	
	Dissipation Factor @ 10E6 Hz		D150	0.003	0.003	0.003			0.004					0.003	
	Flammability @ 3.1 mm unless noted		UL94	V-0	V-0	V-0	V-0	V-0	V-0	V-0	V-0	V-0	V-0	V-0	
H₂O	Water Absorption, Immersion, 24 Hrs	% by wt.	D570(7)	0.15	0.50	0.10	0.15	0.10	0.11	0.15	0.06	0.06	0.05	0.50	
	Water Absorption, Saturation	% by wt.	D570(7)	0.50	0.50	0.50	0.50	0.30		0.50	0.30		0.30	0.50	