

PEEK VARIANTS

			Ketron PEEK	Victrex PEEK 450G	Ketron PEEK	30% Glass Filled Ketron PEEK	30% Glass Filled Ketron PEEK	Victrex PEEK 450GL30	30% Carbon Filled Ketron PEEK	30% Carbon Filled Ketron PEEK	Victrex PEEK 450CA30	Ketron PEEK HPV	Victrex PEEK Optima LT	Tectron PPS		
			Units	ASTM Test Method	Compression Molded Polyetheretherketone	Injection Molded Polyetheretherketone	Extruded Polyetheretherketone	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 Polyetheretherketone	Injection Molded Polyetheretherketone	Extruded Polyphenylene-sulfide
MECHANICAL	1	Strength to Weight Ratio	ksi	-												
	2	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	1.35
	3	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)	13500 (ult)
	4	Tensile Modulus of Elasticity @ 73 F	psi	D638	450000	522000	500000	750000	1000000	1407000	800000	1400000	1885000	1100000	522000	500000
	5	Tensile Elongation at Break @ 73 F	%	D638	1.0	5	20	3	3	2.0	2.0	3	2	3	5	15
	6	Flexural Strength @ 73 F	psi	D790	25000	24650	25000	28000	28000	33785	30000	-	51475	-	24650	21000
	7	Flexural Modulus of Elasticity @ 73 F	psi	D790	600000	594500	600000	1000000	1000000	1450000	1300000	-	2929000	-	594500	575000
	8	Shear Strength @ 73 F	psi	D732	-	7685 (ult)	8000	-	14000	14065 (ult)	-	-	14065 (ult)	-	7685 (ult)	9000
	9	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)	21500 (10)
	10	Compressive Modulus of Elasticity @ 73 F	psi	D695	450000	-	500000	500000	1000000	-	550000	-	-	-	-	430000
	11	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)	M95(R125)
	12	Hardness, Durometer, Shore D @73 F	-	D2240	D85	-	D85	D86	D86	-	D86	-	-	-	-	D85
	13	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	0.6
	14	Coefficient of Friction, (Dry vs. Steel) Dynamic	-	-	0.40	-	0.40	-	-	-	0.19	-	-	0.24	-	0.40
	15	Limiting PV, (with 4 to 1 factor of safety applied)	psi-ft/min	-	12500	-	5500	-	-	-	25000	25000	-	13000	-	-
THERMAL	16	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	2.8E-05
	17	Heat Deflection Temperature @ 264 psi	F	D648	320	306	320	600	600	600	600	518	600	446	306	250
	18	Tg-Glass transition temperature, (Amorphous)	F	D3418	-	289	-	-	-	289	-	289	289	289	289	-
	19	Melting Point, (VS=Vicat Softening Temp.)	F	D3418	644	644	644	644	644	644	644	644	644	644	644	540
	20	Continuous Service Temperature in Air, (Max.)	F	-	480	480	480	480	480	480	480	482	480	482	480	425
21	Thermal Conductivity	BTU-in/hr-ft2-F	-	1.75	1.75	1.75	2.98	2.98	2.98	6.37	6.40	6.37	1.70	1.75	2.00	
ELECTRICAL	22	Dielectric Strength, Short Term	Volts/mil	D149	480	480	480	500	500	500	-	32	-	-	480	540
	23	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	4.5E+16
	24	Dielectric Constant @ 10E6 Hz	-	D150	3.3	3.3	3.3	-	-	3.7	-	-	-	-	3.3	3.0
	25	Dissipation Factor @ 10E6 Hz	-	D150	0.003	0.003	0.003	-	-	0.004	-	-	-	-	0.003	0.001
	26	Flammability @ 3.1 mm unless noted	-	UL94	V-O	V-O	V-O	V-O	V-O	V-O	V-O	V-O	V-O	V-O	V-O	V-O
H ₂ O	27	Water Absorbtion, 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	0.01
	28	Water Absorbtion, Saturation	% by wt.	D570(7)	0.50	0.50	0.50	0.50	0.30	-	0.50	0.30	-	0.30	0.50	0.03