

PEEK MATERIALS

VICTREX - KETRON - TECHTRON

		Units	ASTM Test Method	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	Techtron HPV	Techtron PPS	
				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	Bearing Grade Polyphenylene-sulfide	Extruded Polyphenylene-sulfide	
MECHANICAL	1	Strength to Weight Ratio	ksi	-	11.4	10.9	12.2	11.3	9.9	15.1	12.7	13.5	24.0	7.6	7.6	10.0
	2	Specific Gravity @ 73 F	-	D792	1.32	1.30	1.31	1.51	1.51	1.50	1.42	1.41	1.41	1.44	1.43	1.35
	3	Tensile Strength @73 F, (ult/yld)	psi	D638	15000 (ult)	14100 (ult)	16000 (ult)	17000 (ult)	15000 (ult)	22620 (ult)	18000 (ult)	19000 (ult)	33785 (ult)	10900 (ult)	10900 (ult)	13500 (ult)
	4	Tensile Modulus of Elasticity @ 73 F	psi	D638	450000	522000	500000	750000	900000	1407000	800000	1100000	1885000	850000	540000	500000
	5	Tensile Elongation at Break @ 73 F	%	D638	10	5	20	3	3	2.0	2.0	5.0	2	5	5	15
	6	Flexural Strength @73 F	psi	D790	25000	24650	25000	28000	28000	33785	30000	-	51475	27500	10500	21000
	7	Flexural Modulus of Elasticity @ 73 F	psi	D790	600000	594500	600000	1000000	1000000	1450000	1300000	-	2929000	1100000	535000	575000
	8	Shear Strength @ 73 F	psi	D732	-	7685 (ult)	8000	-	14000	14065 (ult)	-	-	14065 (ult)	-	-	9000
	9	Compressive Strength, (%Deformation) @ 73 F	psi	D695	17000 (10)	17255 (10)	20000 (10)	19000 (10)	26000 (10)	13175 (10)	25000 (10)	29000 (10)	34800 (10)	26700 (10)	-	21500 (10)
	10	Compressive Modulus of Elasticity @ 73 F	psi	D695	450000	-	500000	500000	1000000	-	550000	-	-	1000000	-	430000
	11	Hardness, Rockwell, Scale as noted @ 73 F	-	D785	M99 (R126)	M99 (R126)	M100 (R126)	M103 (R124)	M103 (R126)	M103 (R124)	M97 (R125)	M102	M107 (R124)	M85	M84	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	1.4	0.6
	14	Coefficient of Friction, (Dry vs. Steel) Dynamic	-	-	0.40	-	0.40	-	-	-	0.24	0.20	-	0.21	0.16	0.40
	15	Limiting PV, with 4 to 1 factor of safety applied	psi-ft/min	-	12500	-	8500	-	-	-	41000	25000	-	35000	17000	2400
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	1.7E-05	3.3E-05	2.8E-05
	17	Heat Deflection Temperature @ 264 psi	F	D648	320	306	320	450	450	600	450	518	600	383	240	250
	18	Tg-Glass transition temperature, (Amorphous)	F	D3418	-	289	-	-	-	289	-	289	289	289	-	-
	19	Melting Point, (VS= Vicat Softening Temp.)	F	D3418	644	644	644	644	644	644	644	644	644	644	536	540
	20	Continuous Service Temperature in Air, (Max.)	F	-	480	480	480	480	480	480	480	482	480	482	430	425
21	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	2.10	2.00	
ELECTRICAL	22	Dielectric Strength, Short Term	Volts/ mil	D149	480	480	480	550	500	500	-	32	-	-	500	540
	23	Volume Resistivity	ohm-cm	D257	>E13	4.9E+16	>E13	>E13	>E13	1.0E+16	<E5	<E5	1.4E+05	<E4	>E13	>E13
	24	Dielectric Constant @ 10E6Hz	-	D150	3.3	3.3	3.3	-	-	3.7	-	-	-	-	-	3.0
	25	Dissipation Factor @ 10E6Hz	-	D150	0.003	0.003	0.003	-	-	0.004	-	-	-	-	-	0.001
26	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	V-0	
H2O	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	0.01	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	0.09	0.03