

Utem Specs

				Utem 1000	Utem 1000	Utem 2300	Utem 2300	Semtron ESD410
		Units	ASTM Test Method	Extruded Polyetherimide	Injection molded Polyetherimide	Extruded 30% Glass Filled Polyetherimide	Injection Molded 30% GF Polyetherimide	Static Dissapative Polyetherimide
MECHANICAL	Strength to Weight Ratio	ksi						
	Specific Gravity @73 F		D792	1.28	1.27	1.51	1.51	1.41
	Tensile Strength @73 F, (ult)/(yld)	psi	D638	16500 (ult)	15200 (yld)	17000 (ult)	24500 (yld)	9000
	Tensile Modulus of Elasticity @ 73 F	psi	D638	475000		800000	1260000	850000
	Tensile Elongation at Break @ 73 F	%	D638	80	7	3	3	2
	Flexural Strength @ 73 F	psi	D790	20000	22000	30000	33000	12000
	Flexural Modulus of Elasticity @ 73 F	psi	D790	500000	480000	900000	1300000	850000
	Shear Strength @ 73 F	psi	D732	15000	15000	-	14000	
	Compressive Strength, (% Deformation) @73 F	psi	D695	22000 (10)	21900 (10)	32000 (10)	30700 (10)	19500 (10)
	Compressive Modulus of Elasticity @73 F	psi	D695	480000	480000	625000	938000	600000
	Hardness, Rockwell, Scale as noted @73 F		D785	M112 (R125)	M109	M114 (R127)	M114	M115 (R125)
	Hardness, Durometer, Shore D @73 F		D2240	D86		D86		D85
	Izod Impact, (Notched) @73 F	ft-lb/in of notch	D256 TypeA	0.5	1.0	1.0	2.0	0.8
	Coefficient of Friction, (Dry vs. Steel) Dynamic			0.42				0.18
Limiting PV, (with 4 to 1 factor of safety applied)	psi-ft/min		1875				12000	
THERMAL	Coefficient of Linear Thermal Expansion @73 F	in/in/F	E-831 (TMA)	3.1E-05	3.1E-05	1.1E-05	1.1E-05	1.8E-05
	Heat Deflection Temperature @ 264 psi	F	D648	392	392	410	410	410
	Tg-Glass transition temperature, (Amorphous)	F	D3418	419		419		428
	Melting Point, (VS=Vicat Softening Temp.)	F	D3418				442 (VS)	
	Continuous Service Temperature in Air, (Max.)	F		340	340	340	340	338
	Thermal Conductivity	BTU-in/hr-ft ² -F		0.90	.22 W/M-C	1.15		
ELECTRICAL	Dielectric Strength, Short Term	Volts/mil	D149	830	830	770	770	
	Volume Resistivity	ohm-cm	D257	6.7E+17	1.0E+17	3.0E+16	3.0E+16	1E5-1E7
	Dielectric Constant @ 10E6 Hz		D150	3.2		3.7		
	Dissipation Factor @ 10E6 Hz		D150	0.001		0.002		
	Flammability @ 3.1 mm unless noted		UL94	V-0	5VA(1.9mm)	V-0	V-0 (.25mm)	V-0
H₂O	Water Absorbtion, Immersion, 24 Hrs	% by wt.	D570(7)	0.25	0.25	0.18	0.16	0.30
	Water Absorbtion, Saturation	% by wt.	D570(7)	1.25	1.25	.90	.90	1.25