



TEST SOCKET PLASTICS

MECHANICAL @ 73F		Semitron	Semitron	Semitron	Semitron	Semitron	Torlon®	Torlon®	Torlon®	Torlon®	PEEK
		Esd 420	Esd 420V	Esd 480	Esd 490	Esd 520HR	4203	4301	5530	4XG	1000
Specific Gravity		1.34	1.51	1.47	1.50	1.58	1.41	1.45	1.61	1.60	1.31
Tensile Strength	psi	11,500	10,000	14,500	14,000	12,000	20,000	15,000	15,000	23,000	16,000
Tensile Modulus of Elasticity	psi	640,000	910,000	940,000	940,000	800,000	600,000	900,000	900,000	1,000,000	630,000
Tensile Elongation (at Break)	%	2	1.5	1.5	2	3	10	3	3	4	40
Flexural Strength	psi	14,500	15,800	21,000	21,000	20,000	24,000	23,000	20,000	30,000	25,000
Flexural Modulus of Elasticity	psi	650,000	910,000	1,000,000	950,000	850,000	600,000	800,000	900,000	980,000	600,000
Shear Strength	psi	8,000				12,600	16,000	16,400			8,000
Compressive Strength, 10% Deformation	psi	23,800	22,300	26,500	26,000	30,000	24,000	22,000	27,000	40,000	20,000
Compressive Modulus of Elasticity	psi	370,000	545,000	570,000	600,000	600,000	478,000	950,000	600,000	700,000	500,000
Rockwell Hardness	M Scale	118	M110 / E78	M109 / E83	R113 / M105	108	120	106	85	90	100
Izod Impact Strength, Notched	ft-lbs/in. of notch	1.00	0.50	1.00	1.00	0.80	2.00	0.80	0.07	1.00	1.00
Coefficient of Friction, Dynamic (Dry vs. Steel)		0.28		0.20	0.20	0.24	0.35	0.20	0.20		0.40
Limiting PV (4 :1 Safety Factor Applied)	ft.lbs/in. ² min	9,500		17,000	17,000	27,000	12,500	225,000	20,000		8,500
Wear Factor	in ³ -min/ft.lbs. hr.	100				300	50	10			375
Water Absorption 24 hrs	% by wt.	0.50	0.21	0.18	0.18	0.60	0.40	0.40	0.30	0.30	0.10

THERMAL

Coefficient of Linear Expansion (-40°F to 300°F)	in./in./°F	1.9 x 10 ⁻⁵	1.5 x 10 ⁻⁵	1.7 x 10 ⁻⁵	2.8 x 10 ⁻⁵	2.8 x 10 ⁻⁵	1.7 x 10 ⁻⁵	1.4 x 10 ⁻⁵	2.6 x 10 ⁻⁵	.9 x 10 ⁻⁵	2.6 x 10 ⁻⁵
Heat Deflection Temperature @264 psi	°F	410	420	500	500	520	532	534	520		320
Tg-Glass Transition (amorphus)	°F	410				527	527	527	527	527	644
Melting Point (Crystalline)	°F			644	644						
Continuous Service Temperature in Air	°F	340	340	475	475	500	500	500	500	500	480
Thermal Conductivity	°F	1.51				2.60	1.80	3.70	2.50	2.50	1.75

ELECTRICAL

Dielectric Strength, Short Term	Volts/mil					475	580		700	700	480
Surface Resistivity	Ohms/Sq.	10 ⁶ - 10 ⁹	10 ⁶ - 10 ⁹	10 ⁶ - 10 ⁹	10 ¹⁰ - 10 ¹²	10 ¹⁰ - 10 ¹²	>10 ¹³	>10 ¹³	>10 ¹³	>10 ¹³	>10 ¹³
Dielectric Constant	1 MHz	5.63			5.33	5.76	4.20	6.00	6.30	6.30	3.30
Dissipation Factor	1 MHz	0.266			0.227	0.182	0.025	0.037	0.050	0.050	0.003

Property data shown are typical average values. Information reprinted from Quadrant Engineering Plastic Products literature dated 5/05

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