

DATA SHEET

RESISTAWEAR

Mechanical Properties	ASTM Test	Units Metric (U.S.)	UHMW Thickness Gauges		
			.031"	.062"	.125"
Density	D792	gm/cc	0.93	0.93	0.93
Tensile Strength @ Yield	D638	MPa(psi)	23(3300)	20(2964)	22(3227)
Tensile Strength @ Break	D638	MPa(psi)	53(7740)	49(7056)	44(6373)
Elongation @ Break	D638	%	60	463	466
Youngs "E" Modulus	D638	MPa(psi x 105)	725(1.05)	731(1.06)	672(.097)
Izod Impact Strength	D256 (1)	J/m(ft-lb/in notch)	*	*	*
Hardness Shore "D"	D2240	-	65	65	65
Water Absorption	D570	%	Nil	Nil	Nil
Rel. Solution Viscosity	D4020	dl/gm	2.3-3.5	2.3-3.5	2.3-3.5
Coefficient of Friction	D1894-96	Static	.16	.16	.16
Coefficient of Friction	D1894-96	Dynamic	.14	.13	.14

(1) Izod Impact: Samples have 2(15° +/- 1/2°) notches on opposite sides to a depth of 5mm

Thermal Properties	ASTM Test	Units Metric (U.S.)	UHMW Thickness Gauges		
			.031"	.062"	.125"
Crystalline Melting Range	Polarising	°C(°F)	136(276)	134(273)	134(273)
Crystallinity	D3417-96	%	48	47	50
Coefficient of Linear Expansion					
20° to 100° C	D696	K ⁻¹	*	*	1.5 x 10 ⁻⁴
-20° to -100° C	D696	K ⁻¹	*	*	9.18 x 10 ⁻⁵

Comparison of Dynamic Coefficient of Friction on Polished Steel						
Material	UHMW-PE	Nylon 6	Nylon 6/6	Nylon MoS2	PTFE	Acetal Polymer
Dry	.10 - .22	.15 - .40	.15 - .40	.12 - .20	.04 - .25	.15 - .35
Water	.05 - .10	.14 - .19	.14 - .19	.10 - .12	.04 - .08	.04 - .20
Oil	.05 - .08	.02 - .11	.02 - .11	.08 - .10	.04 - .05	.05 - .08

* No reading could be taken due to material thickness

