

UHMW Specs

				UltraPoly W1	Ceram-P	Ultra-Poly CL6
		Units	ASTM Test Method	Natural UHMW-PE	Reinforced Wear Enhanced UHMW-PE	Reinforced Wear Enhanced UHMW-PE
MECHANICAL	Strength to Weight Ratio	ksi		3.1	2.9	2.9
	Specific Gravity @73 F		D792	0.93	0.96	0.96
	Tensile Strength @73 F, (ult)(yld)	psi	D638	2900 (yld)	2800 (yld)	2800 (yld)
	Tensile Modulus of Elasticity @ 73 F	psi	D638	100000	131000	131000
	Tensile Elongation at Break @ 73 F	%	D638	300 (4@yld)	300	300
	Flexural Strength @ 73 F	psi	D790			
	Flexural Modulus of Elasticity @ 73 F	psi	D790	77000	100000	100000
	Shear Strength @ 73 F	psi	D732	4000		
	Compressive Strength, (% Deformation) @73 F	psi	D695			
	Compressive Modulus of Elasticity @73 F	psi	D695			
	Hardness, Rockwell, Scale as noted @73 F		D785	(R64)		
	Hardness, Durometer, Shore D @73 F		D2240	D68		
	Izod Impact, (Notched) @73 F	ft-lb/in of notch	D256 TypeA	No Break	50.0	50.0
	Coefficient of Friction, (Dry vs. Steel) Dynamic			0.12		
	Limiting PV, (with 4 to 1 factor of safety applied)	psi-ft/min				
THERMAL	Coefficient of Linear Thermal Expansion @73 F	in/in/F	E-831 (TMA)	1.1E-04	1.3E-04	1.3E-04
	Heat Deflection Temperature @ 264 psi	F	D648	114		
	Tg-Glass transition temperature, (Amorphous)	F	D3418			
	Melting Point, (VS=Vicat Softening Temp.)	F	D3418	276		
	Continuous Service Temperature in Air, (Max.)	F				
	Thermal Conductivity	BTU-in/hr-ft ² -F				
ELECTRICAL	Dielectric Strength, Short Term	Volts/mil	D149		2280	
	Volume Resistivity	ohm-cm	D257		>1 E15	
	Dielectric Constant @ 10E6 Hz		D150	2.3-2.35		
	Dissipation Factor @ 10E6 Hz		D150	500.000		
	Flammability @ 3.1 mm unless noted		UL94			
H₂O	Water Absorbion, Immersion, 24 Hrs	% by wt.	D570(7)	NIL	NIL	NIL
	Water Absorbion, Saturation	% by wt.	D570(7)	NIL	NIL	NIL