Quadrant EPP TIVAR® 1000 UV Stabilized (Black) UHMW-PE

Physical Properties	Metric	English	Comments
Specific Gravity	0.94 g/cc	0.034 lb/in³	ASTM D792
Water Absorption	Max 0.01 %	Max 0.01 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	Max 0.01 %	Max 0.01 %	Immersion; ASTM D570(2)
Mechanical Properties			
Hardness, Shore D	66	66	ASTM D2240
Tensile Strength, Ultimate	40 MPa	5800 psi	ASTM D638
Elongation at Break	300 %	300 %	ASTM D638
Tensile Modulus	0.8 GPa	116 ksi	ASTM D638
Flexural Modulus	0.8 GPa	116 ksi	ASTM D790
Flexural Yield Strength	26.2 MPa	3800 psi	ASTM D790
Compressive Strength	22.8 MPa	3300 psi	10% Def., 73°F; ASTM D695
Compressive Modulus	0.689 GPa	100 ksi	ASTM D695
Shear Strength	33.1 MPa	4800 psi	ASTM D732
Coefficient of Friction	0.12	0.12	Dry vs. Steel; QTM55007
Limiting Pressure Velocity	0.0701 MPa-m/sec	2000 psi-ft/min	4:1 safety factor; QTM 55007
Izod Impact, Notched	NB	NB	ASTM D256 Type A
Electrical Properties			
Surface Resistivity per Square	Max 1e+014 ohm	Max 1e+014 ohm	ASTM D257
Thermal Properties			
CTE, linear 68°F	360 µm/m-°C	200 µin/in-°F	(-40°F to 300°F); ASTM E831
Melting Point	135 °C	275 °F	Crystalline, Peak; ASTM D3418
Maximum Service Temperature, Air	82.2 °C	180 °F	Long Term
Deflection Temperature at 1.8 MPa (264 psi)	46.7 °C	116 °F	ASTM D648
Flammability, UL94 (Estimated Rating)	HB	HB	1/8 inch
Qualitative Processing Properties			
Compliance - FDA	Not Compliant		
Machinability	3		1-10, 1=Easier to Machine
Service in Alcohols	Acceptable		
Service in Aliphatic Hydrocarbons	Acceptable		
Service in Aromatic Hydrocarbons	Unacceptable		
Service in Chlorinated Solvents	Acceptable		
Service in Ethers	Limited		
Service in Ketones	Limited		
Service in Strong Acids	Limited		
Service in Strong Alkalies	Acceptable		
Service in Sunlight	Limited		
Service in Weak Acids	Acceptable		
Service in Weak Alkalies	Acceptable		