

## Quadrant EPP TIVAR® Polysteel High Specific Gravity UHMW-PE

Physical Properties	Metric	English	Comments
Specific Gravity	1.45 g/cc	0.0524 lb/in <sup>3</sup>	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)
<b>Mechanical Properties</b>			
Hardness, Shore D	64	64	ASTM D2240
Tensile Strength, Ultimate	19.3 MPa	2800 psi	ASTM D638
Elongation at Break	125 %	125 %	ASTM D638
Tensile Modulus	0.703 GPa	102 ksi	ASTM D638
Flexural Modulus	0.752 GPa	109 ksi	ASTM D790
Compressive Strength	24.8 MPa	3600 psi	10% Def., 73°F; ASTM D695
Compressive Modulus	0.579 GPa	84 ksi	ASTM D695
Coefficient of Friction	0.14	0.14	Dry vs. Steel; QTM55007
<b>Electrical Properties</b>			
Surface Resistivity per Square	Min 1e+010 ohm	Min 1e+010 ohm	ASTM D257
<b>Thermal Properties</b>			
Melting Point	127 °C	260 °F	Crystalline, Peak; ASTM D3418
Maximum Service Temperature, Air	82.2 °C	180 °F	Long Term
Flammability, UL94 (Estimated Rating)	HB	HB	1/8 inch
<b>Qualitative Processing Properties</b>			
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		

All statements, technical information and recommendations contained in this database are presented in good faith, based upon tests believed to be reliable and practical field experience. The reader is cautioned, however, that Quadrant EPP and Automation Creations, Inc. cannot guarantee the accuracy or completeness of this information, and it is the customer's responsibility to determine the suitability of Quadrant EPP's products in any given application.