

Quadrant EPP TIVAR® Polysteel UHMW-PE High Specific Gravity (ASTM Product Data Sheet)
Categories: Polymer; Thermoplastic; Polyethylene (PE); HDPE; High Density Polyethylene (HDPE), UHMW PE Ultra High Molecular Weight

- Material Notes:**
- Reduces or eliminates plastic contamination in paper mill woodyards
 - High specific gravity
 - Excellent impact strength
 - Low coefficient of friction
 - Abrasion- and corrosion-resistant

Physical Properties	Metric	English	Comments
Specific Gravity	1.45 g/cc	1.45 g/cc	ASTM D792
Water Absorption	<= 0.010 %	<= 0.010 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	<= 0.010 %	<= 0.010 %	Immersion; ASTM D570(2)
Mechanical Properties	Metric	English	Comments
Hardness, Shore D	64	64	ASTM D2240
Tensile Strength	19.3 MPa	2800 psi	ASTM D638
Elongation at Break	125 %	125 %	ASTM D638
Tensile Modulus	0.421 GPa	61.0 ksi	ASTM D638
Flexural Modulus	0.752 GPa	109 ksi	ASTM D790
Compressive Strength	24.8 MPa	3600 psi	10% Def.; ASTM D695
Compressive Modulus	0.579 GPa	84.0 ksi	ASTM D695
Coefficient of Friction, Dynamic	0.14	0.14	Dry vs. Steel; QTM55007
Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	>= 1.00e+10 ohm	>= 1.00e+10 ohm	ASTM D257
Thermal Properties	Metric	English	Comments
Melting Point	127 °C	260 °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	HB	HB	1/8 inch (Estimated Rating)
Compliance Properties	Metric	English	Comments
3A-Dairy	No	No	
Canada AG	No	No	
FDA	No	No	
NSF	No	No	
USDA	No	No	
USP Class VI	No	No	
Chemical Resistance Properties	Metric	English	Comments
Acids, Strong (pH 1-3)	Limited	Limited	
Acids, Weak	Acceptable	Acceptable	
Alcohols	Acceptable	Acceptable	
Alkalies, Strong (pH 11-14)	Acceptable	Acceptable	
Alkalies, Weak	Acceptable	Acceptable	
Chlorinated Solvents	Acceptable	Acceptable	
Conductive / Static Dissipative	Yes	Yes	
Continuous Sunlight	Limited	Limited	
Hot Water / Steam	Limited	Limited	
Hydrocarbons - Aliphatic	Acceptable	Acceptable	
Hydrocarbons - Aromatic	Unacceptable	Unacceptable	
Inorganic Salt Solutions	Acceptable	Acceptable	
Ketones, Esters	Limited	Limited	
Descriptive Properties			
Machinability		3	1-10, 1=Easier to Machine