

Quadrant EPP TIVAR® MD UHMW-PE, FDA Metal Detectable (ASTM Product Data Sheet)

Categories: Polymer; Thermoplastic; Polyethylene (PE); HDPE; High Density Polyethylene (HDPE), UHMW PE Ultra High Molecular Weight

- Material Notes:**
- Meets FDA and USDA guidelines; 3-A Dairy-approved (natural)
 - Reduces noise
 - Self-lubricating
 - Chemical-, corrosion- and wear-resistant
 - No moisture absorption
 - Non-toxic, low-friction surface
 - Meets ASTM-D4020-05 of 3.1 to 6.2-million molecular weight

Physical Properties	Metric	English	Comments
Specific Gravity	0.954 g/cc	0.954 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	42.1 MPa	6100 psi	ASTM D638
Elongation at Break	380 %	380 %	ASTM D638
Tensile Modulus	0.552 GPa	80.0 ksi	ASTM D638
Flexural Strength	29.0 MPa	4200 psi	ASTM D790
Flexural Modulus	0.7419 GPa	107.6 ksi	ASTM D790
Compressive Strength	20.7 MPa	3000 psi	10% Def.; ASTM D695
Compressive Modulus	0.621 GPa	90.0 ksi	ASTM D695
Izod Impact, Notched	NB	NB	ASTM D256 Type A
Coefficient of Friction, Dynamic	0.13	0.13	Dry vs. Steel; QTM55007
Sand Slurry	11	11	1018 Steel = 100; ASTM D4020

Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	>= 1.00e+14 ohm	>= 1.00e+14 ohm	ASTM D257

Thermal Properties	Metric	English	Comments
CTE, linear	198 µm/m-°C	110 µin/in-°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	HB	HB	1/8 inch (Estimated Rating)

Compliance Properties	Metric	English	Comments
FDA	Yes	Yes	
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	No	No	
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	