

Quadrant EPP TIVAR® 88 UHMW-PE, Premium Glass Filled, Crosslinked Lining Material

Categories: [Polymer](#); [Thermoplastic](#); [Polyethylene](#); [UHMW-PE](#)

Physical Properties	Metric	English	Comments
Specific Gravity	0.930 g/cc	0.930 g/cc	ASTM D792
Water Absorption	<= 0.0100 %	<= 0.0100 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	<= 0.0100 %	<= 0.0100 %	Immersion; ASTM D570(2)

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	69	69	ASTM D2240
Tensile Strength	40.0 MPa	5800 psi	ASTM D638
Tensile Strength at 65 °C (150 °F)	2.76 MPa	400 psi	ASTM D638
Elongation at Break	300 %	300 %	ASTM D638
Tensile Modulus	0.421 GPa	61.0 ksi	ASTM D638
Flexural Modulus	0.500 GPa	72.5 ksi	ASTM D790
Flexural Yield Strength	22.1 MPa	3200 psi	ASTM D790
Compressive Strength	20.7 MPa	3000 psi	10% Def.; ASTM D695
Compressive Modulus	0.483 GPa	70.0 ksi	ASTM D695
Coefficient of Friction	0.120	0.120	Dry vs. Steel; QTM55007
Sand Slurry	8.00	8.00	1018 Steel = 100
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	Metric	English	Comments
Surface Resistivity per Square	>= 1.00e+15 ohm	>= 1.00e+15 ohm	ASTM D257
Dielectric Constant	2.30 @Frequency 1e+6 Hz	2.30 @Frequency 1e+6 Hz	ASTM D150
Dielectric Strength	90.6 kV/mm	2300 kV/in	Short Term; ASTM D149
Dissipation Factor	0.000500 @Frequency 1e+6 Hz	0.000500 @Frequency 1e+6 Hz	ASTM D150

Thermal Properties	Metric	English	Comments
CTE, linear	198 µm/m-°C @Temperature -40.0 - 149 °C	110 µin/in-°F @Temperature -40.0 - 300 °F	ASTM E831
Thermal Conductivity	0.409 W/m-K	2.84 BTU-in/hr-ft ² -°F	
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
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	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	

Miscellaneous Properties	Metric	English	Comments
Data Sheet Region	Americas	Americas	
Targeted Usage	Load + Bearing	Load + Bearing	
Descriptive Properties			
Machinability		3	1-10, 1=Easier to Machine

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations can click on the property value to see the original value as well as raw conversions to equivalent units. We advise that you only use the original value or one of its raw conversions in your calculations to minimize rounding error. We also ask that you refer to MatWeb's disclaimer and terms of use regarding this information. [Click here](#) to view all the property values for this datasheet as they were originally entered into MatWeb.