

TIVAR® MD FDA Metal Detectable UHMW-PE

Available from **PROFESSIONAL PLASTICS, INC.**

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Physical Properties	Metric	English	Comments
Specific Gravity	0.954 g/cc	0.954 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	64.0	64.0	ASTM D2240
Tensile Strength, Ultimate	42.1 MPa	6100 psi	ASTM D638
Elongation at Break	380 %	380 %	ASTM D638
Tensile Modulus	0.689 GPa	100 ksi	ASTM D638
Flexural Modulus	0.7419 GPa	107.6 ksi	ASTM D790
Flexural Yield Strength	29.0 MPa	4200 psi	ASTM D790
Compressive Strength	20.7 MPa	3000 psi	10% Def., 73°F; ASTM D695
Compressive Modulus	0.621 GPa	90.0 ksi	ASTM D695
Coefficient of Friction	0.130	0.130	Dry vs. Steel; QTM55007
Abrasion	11.0	11.0	Sand Slurry; 1018 Steel = 100; ASTM D4020
Izod Impact, Notched	NB	NB	ASTM D256 Type A
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	No	No	
Chemical Resistance Properties	Metric	English	Comments
Acids, Strong (pH 1-3)	Unacceptable	Unacceptable	
Acids, Weak	Limited	Limited	
Alcohols	Acceptable	Acceptable	
Alkalies, Strong (pH 11-14)	Unacceptable	Unacceptable	
Alkalies, Weak	Acceptable	Acceptable	
Chlorinated Solvents	Limited	Limited	
Conductive / Static Dissipative	No	No	
Continuous Sunlight	Limited	Limited	
Hydrocarbons - Aliphatic	Acceptable	Acceptable	
Hydrocarbons - Aromatic	Acceptable	Acceptable	
Ketones, Esters	Acceptable	Acceptable	

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