



TIVAR CleanStat

FDA, USDA, 3-A Dairy, ESD UHMW-PE

Physical Properties	Metric	English	Comments
Specific Gravity	0.94 g/cc	0.034 lb/in ³	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)
Mechanical Properties			
Hardness, Shore D	66	66	ASTM D2240
Tensile Strength, Ultimate	35.9 MPa	5200 psi	ASTM D638
Elongation at Break	200 %	200 %	ASTM D638
Tensile Modulus	0.745 GPa	108 ksi	ASTM D638
Flexural Modulus	0.758 GPa	110 ksi	ASTM D790
Flexural Yield Strength	22.1 MPa	3200 psi	ASTM D790
Compressive Strength	21.4 MPa	3100 psi	10% Def., 73°F; ASTM D695
Compressive Modulus	0.536 GPa	77.75 ksi	ASTM D695
Coefficient of Friction	0.12	0.12	Dry vs. Steel; QTM55007
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			
Surface Resistivity per Square	1e+007 - 1e+010 ohm	1e+007 - 1e+010 ohm	ASTM D257
Thermal Properties			
CTE, linear 68°F	342 µm/m-°C	190 µin/in-°F	(-40°F to 300°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 (Estimated Rating)	HB	HB	1/8 inch
Qualitative Processing Properties			
Compliance - FDA	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		

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