Ertalyte TX (Quadrant)

Polyester-semi-crystalline thermoplastic with solid lubricant

Physical Properties	Metric	English	Comments
Specific Gravity	1.44 g/cc	0.052 lb/in³	ASTM D792
Water Absorption	0.06 %	0.06 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	0.47 %	0.47 %	Immersion; ASTM D570 (2)
Mechanical Properties			
Hardness, Rockwell M	94	94	ASTM D785
Hardness, Shore D	80	80	ASTM D2240
Tensile Strength, Ultimate	72.4 MPa	10500 psi	ASTM D638
Elongation at Break	5 %	5 %	ASTM D638
Tensile Modulus	3.45 GPa	500 ksi	ASTM D638
Flexural Modulus	2.48 GPa	360 ksi	ASTM D790
Flexural Yield Strength	96.5 MPa	14000 psi	ASTM D790
Compressive Strength	105 MPa	15250 psi	10% Def.; ASTM D695
Compressive Modulus	2.76 GPa	400 ksi	ASTM D695
Shear Strength	58.6 MPa	8500 psi	ASTM D732
Coefficient of Friction	0.19	0.19	Dry vs. Steel; QTM55007
K (wear) Factor	70.5 x 10^{-8} mm³/N-M	35 x 10^{-10} in³-min/ft-lb-hr	QTM 55010
Limiting Pressure Velocity	0.21 MPa-m/sec	6000 psi-ft/min	4:1 safety factor; QTM 55007
Izod Impact, Notched	0.214 J/cm	0.4 ft-lb/in	ASTM D256 Type A
Electrical Properties			
Surface Resistivity per Square	Min 1e+013 ohm	Min 1e+013 ohm	EOS/ESD S11.11
Dielectric Constant	3.6	3.6	1MHz; ASTM D150
Dielectric Strength	21 kV/mm	533 V/mil	Short Term; ASTM D149
Dissipation Factor	0.02	0.02	1MHz; ASTM D150
Thermal Properties			
CTE, linear 68°F	81 µm/m-°C	45 µin/in-°F	(-40°F to 300°F); ASTM E831
Thermal Conductivity	0.274 W/m-K	1.9 BTU-in/hr-ft²-°F	ASTM F433
Melting Point	255 °C	491 °F	Crystalline, Peak; ASTM D3418
Maximum Service Temperature, Air	98.9 °C	210 °F	Long Term
Deflection Temperature at 1.8 MPa (264 psi)	82.2 °C	180 °F	ASTM D648
Flammability, UL94 (Estimated Rating)	HB	HB	1/8 inch

Qualitative Processing Properties		
Compliance - FDA	Compliant	
Machinability	2	1-10, 1=Easier to Machine
Service in Alcohols	Acceptable	
Service in Aliphatic Hydrocarbons	Acceptable	
Service in Aromatic Hydrocarbons	Acceptable	
Service in Chlorinated Solvents	Unacceptable	
Service in Ethers	Acceptable	
Service in Ketones	Acceptable	
Service in Strong Acids	Limited	
Service in Strong Alkalies	Unacceptable	
Service in Sunlight	Limited	
Service in Weak Acids	Acceptable	
Service in Weak Alkalies	Acceptable	