

General Information

Chemical Designation:	<i>Ertalyte® TX is an unreinforced semi-crystalline thermoplastic polyester (PET-P) that has a solid lubricant filler. Designed for machining highly wear resistant parts where excellent performance in both high pressure and moderate velocity conditions exist. It is ideally suited for applications involving soft metal and plastic mating surfaces where rotary or sliding contact exist.</i>
<i>POM (Polyoxymethylene)</i>	
Fillers:	<i>Key properties of Ertalyte® TX, are its high strength and stiffness, high wear-resistance, very good dimensional stability, high creep resistance and very good chemical resistance. This combination of properties make it an ideal material for machining bushings and bearings that require no start-up or running lubrication. Ertalyte® TX has FDA and USDA compliance and is ideal for applications in food packaging and processing equipment. Excellent dimensional stability, wear resistance, and low-friction characteristics make Ertalyte® TX an excellent choice for many demanding applications.</i>
<i>Unfilled</i>	
Color:	
<i>White, Opaque</i>	
Specific Gravity:	
<i>1.44</i>	

Technical Information

Specification	Test	Value	Units
Specific Gravity, 73°F	D792	1.44	–
Tensile Strength @ Yield, 73°F	D638	10,500	psi
Tensile Modulus of Elasticity, 73°F	D638	500,000	psi
Tensile Elongation (at break), 73°F	D638	5	%
Flexural Strength, 73°F	D790	14,000	psi
Flexural Modulus of Elasticity	D790	360,000	psi
Shear Strength, 73°F	D732	8,500	psi
Compressive Strength – Ultimate		1,000	psi
Compressive Strength at 2% Deformation	D695	1,500	psi
Compressive Strength at 10% Deformation	D695	15,250	psi
Deformation Under Load			%
Compressive Modulus of Elasticity, 73°F	D695	400,000	
Compressive Strength \perp to Laminate (Modulus)		1,000	psi
Compressive Strength \perp to Laminate (Yield)		1,000	psi
Compressive Strength \perp to Laminate (Ultimate)		1,000	psi
Hardness, Durometer (Shore "D" scale)	D2240	D80	
Hardness, Rockwell (Scale as noted)	D785	M94	Rockwell M
Izod Impact, Notched @ 73°F	D256 Type A	0.4	ft.lbs/in. of notch
Coefficient of Friction (Dry vs Steel) Static	PTM55007		
Coefficient of Friction (Dry vs Steel) Dynamic	PTM55007	0.19	
Maximum Static Bearing Load (P)	PTM55007	1,000	psi
Maximum Unlubricated No Load Bearing Velocity (V)	PTM55007	15	ft/minute
Maximum Limiting PV (Unlubricated)	PTM55007	6,000	psi x ft/min.
Wear Factor "K" x 10-10	PTM55010	35	Cubic in.-min/ft.lbs.hr
Sand Wheel Wear/Abrasion Test			UHMW=100
Minimum Mating Surface Hardness			Rockwell (Brinnell)
Coefficient of Linear Thermal Expansion	E-831(TMA)	4.5	in/in/°F x 10-5
Coefficient of Thermal Expansion // to Laminates	E-831(TMA)	4.5	in/in/°F x 10-5
Coefficient of Thermal Expansion \perp to Laminates	E-831(TMA)	4.5	in/in/°F x 10-5
Softening Point			°F
Heat Deflection Temperature 264 psi	D648	180	°F
Embrittlement Temperature			°F Min.
Continuous Service Temperature in Air		210	°F Max.
Short Term Service Temperature		220	°F Max.
Tg-Glass Transition (Amorphous)	D3418	N/A	°F
Melting Point (Crystalline) Peak	D3418	491	°F
Thermal Conductivity	F433	1.9	BTU-in/(hr/ft ² °F)
Dielectric Strength Short Term	D149	533	Volts/mil
Surface Resistivity	D257	>1013	ohm/cm
Volume Resistivity	D257	–	ohm/cm
Dielectric Constant, 106 Hz	D150	3.4	
Dissipation Factor, 106 Hz	D150	.02	
Flammability @ 3.1mm(1/8 in.) UL94	UL94	HB	
Arc Resistance			seconds
Water Absorption, Immersion 24 Hours	D570 (2)	0.06	%
Water Absorption, Immersion Saturation	D570 (2)	0.47	%
Machinability Rating		2	1=easy, 10=difficult
Rod Diameter Availability (Off the Shelf)		.394-5.91	inches
Sheet Thickness Availability (Off the Shelf)		.315-3.94	inches
Characteristics / Attributes	High Strength / Easily Machined / Low Friction / FDA		

Thank you for your interest in our materials. All statements, technical information and recommendations presented are in good faith, based upon tests believed to be reliable and practical field experience. Poly-Tech is not responsible for its accuracy or completeness. It is our recommendation and the customer's responsibility to determine the suitability of any material for any given application.