

# Internally Lubricated PET Material Comparison

## TYPICAL PROPERTIES

	Test Method	Units	ZL® 1400 T	Ertalyte® TX
<b>Physical</b>				
Specific Gravity	ASTM D792	gm/cm <sup>3</sup>	1.44	1.44
Water Absorption (immersion 24 hrs)	ASTM D570	%	0.06	0.06
Water Absorption at Saturation (immersion)	ASTM D570	%	0.47	0.47
<b>Mechanical</b>				
Tensile Strength	ASTM D638	psi	10,900	10,500
Tensile Modulus	ASTM D638	psi	360,000	500,000
Elongation at Break	ASTM D638	%	5	5
Flexural Strength	ASTM D790	psi	14,000	14,000
Flexural Modulus	ASTM D790	psi	360,000	360,000
Compressive Strength	ASTM D695	psi	15,000	15,250
Compressive Modulus	ASTM D695	psi	400,000	400,000
Hardness, Rockwell	ASTM D785	R (M)	117 (94)	126 (96)
Hardness, Durometer, Shore D	ASTM D2240	D	-	84
Shear Strength	ASTM D732	psi	8,500	8,500
Izod Impact, Notched	ASTM D256	ft-lbs/in	0.8	0.4
Coefficient of Friction, vs. Steel	QTM55007		0.19	0.19
<b>Thermal</b>				
Deflection Temperature at 264 psi	ASTM D648	°F	180	180
Maximum Continuous Service Temperature	Long Term	°F	210	210
Melting Point	ASTM D3418	°F	491	491
Coefficient of Linear Thermal Expansion	ASTM D696/E831	in/in°Fx10 <sup>-5</sup>	4.5	4.5
Thermal Conductivity	ASTM C177/F433	BTU-in/hr-ft <sup>2</sup> -°F	1.9	1.9
<b>Electrical</b>				
Dielectric Strength	ASTM D149	kV/in	-	533
Dielectric Constant	ASTM D150	at Frequency 1e+6 Hz	-	3.6
Dissipation Factor	ASTM D150	at Frequency 1e+6 Hz	-	0.02
Flammability	UL94		HB	HB
<b>Compliance</b>				
FDA			Yes	Yes
USDA			Yes	Yes
3A-Dairy			Yes	Yes