

## TECHNICAL DATA SHEET

### Ertalyte® (PET-P) (polyethylene terephthalate)

Ertalyte® is an unreinforced, semi-crystalline thermoplastic polyester based on polyethylene terephthalate (PET-P). It is manufactured from proprietary resin grades made by Quadrant. It is characterized as having the best dimensional stability coupled with excellent wear resistance, a low coefficient of friction, high strength, and resistance to moderately acidic solutions. Ertalyte®'s properties make it especially suitable for the manufacture of precision mechanical parts which are capable of sustaining high loads and enduring wear conditions. Ertalyte®'s continuous service temperature is 210°F (100°C) and its melting point is almost 150°F higher than acetals. It retains significantly more of its original strength up to 180°F (85°C) than nylon or acetal. In addition, Ertalyte® PET-P offers good chemical and abrasion resistance. Its low moisture absorption enables mechanical and electrical properties to remain virtually unaffected by moisture. Ertalyte® PET-P can be machined by Laminated Plastics to precise detail of your custom drawing.

\*Ertalyte® is FDA compliant in natural and black. Natural Ertalyte® is also USDA, 3A-Dairy and Canada AG compliant. Ertalyte® is an excellent candidate for parts used in the food processing and equipment industries.

TYPICAL PROPERTIES of ERTALYTE®			
ASTM or UL test	Property	Ertalyte® unfilled	Ertalyte® TX lubricated
<b>PHYSICAL</b>			
D792	Density (lb/in <sup>3</sup> ) (g/cm <sup>3</sup> )	0.051 1.41	0.052 1.44
D570	Water Absorption, 24 hrs (%)	0.07	0.06
<b>MECHANICAL</b>			
D638	Tensile Strength (psi)	12,400	11,000
D638	Tensile Modulus (psi)	460,000	500,000
D638	Tensile Elongation at Break (%)	20	5
D790	Flexural Strength (psi)	18,000	16,000
D790	Flexural Modulus (psi)	490,000	460,000
D695	Compressive Strength (psi)	15,000	15,250
D695	Compressive Modulus (psi)	420,000	400,000
D785	Hardness, Rockwell	M93 / R125	M94
D256	IZOD Notched Impact (ft-lb/in)	0.5	0.4
<b>THERMAL</b>			
D696	Coefficient of Linear Thermal Expansion (x 10 <sup>-5</sup> in./in./°F)	3.30	4.50
D648	Heat Deflection Temp (°F / °C) at 264 psi	240 / 116	180 / 82
D3418	Melting Temperature (°F / °C)	491 / 255	491 / 255
-	Max Operating Temp (°F / °C)	210 / 99	210 / 99
C177	Thermal Conductivity (BTU-in/ft <sup>2</sup> -hr-°F) (x 10 <sup>-4</sup> cal/cm-sec-°C)	2.0 6.9	1.9 6.6
UL94	Flammability Rating	HB	HB
<b>ELECTRICAL</b>			
D149	Dielectric Strength (V/mil) short time, 1/8" thick	385	-
D150	Dielectric Constant at 60 Hz	3.4	-
D150	Dissipation Factor at 60 Hz	-	-
D257	Volume Resistivity (ohm-cm) at 50% RH	> 10 <sup>13</sup>	> 10 <sup>13</sup>

#### Benefits

- Wet and dry environments
- Stain resistance
- Acid resistance
- Low coefficient of friction
- High strength and rigidity
- Holds tight tolerance
- Wear resistance
- Mechanical stability

#### Applications

- Pharmaceutical manufacturing
- Desalination
- Food processing
- Transportation
- Industrial

#### SHAPES AVAILABLE



\*Ertalyte is a registered trademark of Quadrant EPP Delrin is a registered trademark of DuPont

NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Contact us for manufacturers' complete material property datasheets. All values at 73°F (23°C) unless otherwise noted.