



## Ertalyte PET-P (Quadrant)

Polyester-semi-crystalline thermoplastic, extruded

Physical Properties	Metric	English	Comments
Specific Gravity	1.41 g/cc	0.0509 lb/in <sup>3</sup>	ASTM D792
Water Absorption	0.07 %	0.07 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	0.9 %	0.9 %	Immersion; ASTM D570 (2)

### Mechanical Properties

Hardness, Rockwell M	93	93	ASTM D785
Hardness, Rockwell R	125	125	ASTM D785
Hardness, Shore D	87	87	ASTM D2240
Tensile Strength, Ultimate	85.5 MPa	12400 psi	ASTM D638
Elongation at Break	20 %	20 %	ASTM D638
Tensile Modulus	3.17 GPa	460 ksi	ASTM D638
Flexural Modulus	3.38 GPa	490 ksi	ASTM D790
Flexural Yield Strength	124 MPa	18000 psi	ASTM D790
Compressive Strength	103 MPa	15000 psi	10% Def.; ASTM D695
Compressive Modulus	2.9 GPa	420 ksi	ASTM D695
Shear Strength	55.2 MPa	8000 psi	ASTM D732
Coefficient of Friction	0.2	0.2	Dry vs. Steel; QTM55007
K (wear) Factor	121 x 10 <sup>-8</sup> mm <sup>3</sup> /N-M	60 x 10 <sup>-10</sup> in <sup>3</sup> -min/ft-lb-hr	QTM 55010
Limiting Pressure Velocity	0.0981 MPa-m/sec	2800 psi-ft/min	4:1 safety factor; QTM 55007
Izod Impact, Notched	0.267 J/cm	0.5 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	3.4	3.4	1MHz; ASTM D150
Dielectric Strength	15.2 kV/mm	385 V/mil	Short Term; ASTM D149
Dissipation Factor	0.02	0.02	1MHz; ASTM D150

### Thermal Properties

CTE, linear 68°F	59.4 µm/m-°C	33 µin/in-°F	(-40°F to 300°F); ASTM E831
Thermal Conductivity	0.288 W/m-K	2 BTU-in/hr-ft <sup>2</sup> -°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)	116 °C	240 °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	

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