

Quadrant EPP Ertalyte® TX PET + solid lubricant, extruded (ISO Data)

Category : Polymer , Thermoplastic , Polyester, TP , Polyethylene Terephthalate (PET)

Material Notes:

Ertalyte TX is a polyethylene terephthalate compound incorporating a uniformly dispersed solid lubricant. Its specific formulation makes it a premium internally lubricated bearing-grade. Ertalyte TX not only has got an outstanding wear resistance, but offers in comparison with Ertalyte an even lower coefficient of friction as well as higher pressure-velocity capabilities. High mechanical strength, stiffness and hardness Very good creep resistance Low and constant coefficient of friction Excellent wear resistance (comparable to or even better than Nylon grades) Very good dimensional stability (better than Polyacetal) Excellent stain resistance Better resistance to acids than Nylon or Polyacetal Good electrical insulating properties Physiologically inert (suitable for food contact) Good resistance to high energy radiation (gamma- and X-rays)

Order this product through the following link:

http://www.lookpolymers.com/polymer_Quadrant-EPP-Ertalyte-TX-PET-solid-lubricant-extruded-ISO-Data.php

Physical Properties	Metric	English	Comments
Density	1.44 g/cc	0.0520 lb/in ³	ISO 1183-1
Moisture Absorption at Equilibrium	0.23 %	0.23 %	50% RH
Water Absorption at Saturation	0.47 %	0.47 %	
Outgassing - Total Mass Loss	0.25 %	0.25 %	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	94	94	ISO 2039-2
Hardness, Shore D	78	78	
Ball Indentation Hardness	160 MPa	23200 psi	ISO 2039-1
Tensile Strength	76.0 MPa	11000 psi	at Yield; ISO 527-1/-2
Elongation at Break	5.0 %	5.0 %	ISO 527-1/-2
Elongation at Yield	4.0 %	4.0 %	ISO 527-1/-2
Tensile Modulus	3.30 GPa	479 ksi	ISO 527-1/-2
Flexural Strength	122 MPa	17700 psi	
Flexural Modulus	3.16 GPa	458 ksi	
Compressive Strength	31.0 MPa	4500 psi	ISO 604
	@Strain 1 %	@Strain 1 %	
	60.0 MPa	8700 psi	ISO 604

Mechanical Properties	@Strain 2 % Metric	@Strain 2 % English	Comments
	102 MPa	14800 psi	ISO 604
	@Strain 5 %	@Strain 5 %	
K Factor (ISO)	2.0 µm/km	2.0 µm/km	
Charpy Impact Unnotched	3.00 J/cm²	14.3 ft-lb/in²	ISO 179-1/1eU
Charpy Impact, Notched	0.250 J/cm²	1.19 ft-lb/in²	ISO 179-1/1eA
Coefficient of Friction, Dynamic	0.15 - 0.22	0.15 - 0.22	
Limiting Pressure Velocity	0.160 MPa-m/sec	4570 psi-ft/min	at 1 m/s unlubricated
	0.260 MPa-m/sec	7420 psi-ft/min	at 0.1 m/s unlubricated

Thermal Properties	Metric	English	Comments
CTE, linear	85.0 µm/m-°C	47.2 µin/in-°F	
	@Temperature 23.0 - 100 °C	@Temperature 73.4 - 212 °F	
Thermal Conductivity	0.290 W/m-K	2.01 BTU-in/hr-ft²-°F	
Melting Point	245 °C	473 °F	DSC, 10°C/min.; ISO 11357-1/-3
Maximum Service Temperature, Air	100 °C	212 °F	Continuous; 20,000 h
	115 °C	239 °F	Continuous; 5,000 h
Deflection Temperature at 1.8 MPa (264 psi)	75.0 °C	167 °F	ISO 75-1/-2
Flammability, UL94	HB	HB	
Oxygen Index	25 %	25 %	ISO 4589-1/-2

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.0e+14 ohm-cm	>= 1.0e+14 ohm-cm	IEC 60093
Surface Resistivity per Square	>= 1.0e+13 ohm	>= 1.0e+13 ohm	IEC 60093
Dielectric Constant	3.4	3.4	IEC 60250
	@Frequency >=100000 Hz	@Frequency >=100000 Hz	
Dielectric Strength	21.0 kV/mm	533 kV/in	
Dissipation Factor	0.0010	0.0010	IEC 60250
	@Frequency 100000 Hz	@Frequency 100000 Hz	

Electrical Properties	Metric	English	Comments
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Compliance Properties	Metric	English	Comments
3A-Dairy	No	No	
European Food 1935/2004	Yes	Yes	
FDA	Yes	Yes	
USP Class VI	No	No	

Chemical Resistance Properties	Metric	English	Comments
Acids, Strong (pH 1-3)	Unacceptable	Unacceptable	
Acids, Weak	Limited	Limited	
Alcohols	Limited	Limited	
Alkalies, Strong (pH 11-14)	Unacceptable	Unacceptable	
Alkalies, Weak	Limited	Limited	
Chlorinated Solvents	Limited	Limited	
Continuous Sunlight	Limited	Limited	
Hot Water / Steam	Limited	Limited	
Hydrocarbons - Aliphatic	Acceptable	Acceptable	
Hydrocarbons - Aromatic	Acceptable	Acceptable	
Inorganic Salt Solutions	Acceptable	Acceptable	
Ketones, Esters	Acceptable	Acceptable	

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