

ERTALYTE® TX Product Information



ERTALYTE TX

Pale grey PETP

ERTALYTE TX is a polyethylene terephthalate based compound incorporating a uniformly dispersed solid lubricant. Its specific formulation yields a premium internally lubricated bearing grade.

ERTALYTE TX has not only an excellent wear resistance but offers, in comparison with ERTALYTE an even lower coefficient of friction as well as higher Pressure-Velocity capabilities.

MAIN CHARACTERISTICS

- High mechanical strength, stiffness and hardness
- Very good creep resistance
- Low and constant coefficient of friction
- Excellent wear resistance
- Very good dimensional stability
- Physiologically inert (suitable for food contact)

APPLICATIONS

- Gear wheels
- Cam rollers
- Heavily loaded bearings and rollers
- Bearings and gears with small clearance
- Dimensionally stable precision parts for machine construction
- Insulating components for electrical engineering
- Pump components
- Slideways
- Thrust washers
- Guides

PROPERTIES	UNITS	VALUE
Density	g/cm ³	1.44
Water Absorption	after 24/96 h in water of 23° C	%
	at saturation in air of 23° C / 50% RH	%
	at saturation in water of 23° C	%
		0.23
		0.47
THERMAL PROPERTIES		
Melting point	°C	255
Thermal Conductivity at 23°C	W/(K.m)	.29
Coefficient of linear thermal expansion:		
	Average value between 23 and 60°C	m/(m.K)
	Average value between 23 and 100°C	m/(m.K)
		65 x 10 ⁻⁶
		85 x 10 ⁻⁶
Deflection temperature under flexural load: method A: 1.8N/mm ²	°C	80
Max allowable surface temperature in air:		
	Short periods, a few hrs at a low load	°C
	Continuously: 5000/20000 hours	°C
		160
		115/100
Minimum service temperature	°C	-20
Flammability: ASTM (Oxygen index)	%	25
MECHANICAL PROPERTIES @ 23°C		
Tensile stress at yield	dry test specimen	N/mm ²
	Test specimens standard atmosphere 23°C/50% RH	N/mm ²
		-/78
		-/78
Tensile strain at break	dry test specimen	%
	Test specimens standard atmosphere 23°C/50% RH	%
		8
		8
Tensile modulus of elasticity	dry test specimen	N/mm ²
	Test specimens standard atmosphere 23°C/50% RH	N/mm ²
		3200
		3200
Compression test 1% offset yield strength	dry test specimen	N/mm ²
		99
Creep test in tension; stress to produce 1% strain in 1000 hrs		N/mm ²
	Test specimens standard atmosphere 23°C/50% RH	N/mm ²
		23
		23
Impact strength – Charpy	dry test specimen	kJ/m ²
		30
Notched impact strength	Charpy dry test specimen	kJ/m ²
	Test specimens standard atmosphere 23°C/50% RH	kJ/m ²
		4
		4
	- Izod dry test specimen	kJ/m ² : J/m
	Test specimens standard atmosphere 23°C/50% RH	kJ/m ² : J/m
		2 ; 20
		2 ; 20
Ball indentation hardness H358/30 or H 961/30		N/mm ²
		160
Rockwell hardness		M94
ELECTRICAL PROPERTIES		
Dielectric strength	dry test specimen	kV/mm
	Test specimens standard atmosphere 23°C/50% RH	kV/mm
		21
		21
Volume resistivity	dry test specimen	Ohm.cm
	Test specimens standard atmosphere 23°C/50% RH	Ohm.cm
		10 ¹⁷
		10 ¹⁷
Surface resistivity	dry test specimen	Ohm
	Test specimens standard atmosphere 23°C/50% RH	Ohm
		10 ¹⁷
		10 ¹⁷
Dielectric constant:	@ 50Hz dry test specimen	-
	Test specimens standard atmosphere 23°C/50% RH	-
		3.4
		3.4
	@ 1MHz dry test specimen	-
	Test specimens standard atmosphere 23°C/50% RH	-
		3.2
		3.2
Dissipation factor tan	@ 50Hz dry test specimen	-
	Test specimens standard atmosphere 23°C/50% RH	-
		0.001
		0.001
	@ 1 MHz dry test specimen	-
	Test specimens standard atmosphere 23°C/50% RH	-
		0.014
		0.014
Resistance to racking	dry test specimen	-
	Test specimens standard atmosphere 23°C/50% RH	-
		CTI 600
		CTI 600