

ERTALYTE® TX Product Information

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)

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.

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 | % | 5/11 |
| | at saturation in air of 23° C / 50% RH | % | 0.23 |
| | at saturation in water of 23° C | % | 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) | 65 x 10 ⁻⁶ |
| | Average value between 23 and 100°C | m/(m.K) | 85 x 10 ⁻⁶ |
| Deflection temperature under flexural load: method A: 1.8N/mm ² | | | |
| Max allowable surface temperature in air: | | | |
| | Short periods, a few hrs at a low load | °C | 160 |
| | Continuously: 5000/20000 hours | °C | 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 | -/78 |
| | Test specimens standard atmosphere 23°C/50% RH | N/mm ² | -/78 |
| Tensile strain at break | dry test specimen | % | 8 |
| | Test specimens standard atmosphere 23°C/50% RH | % | 8 |
| Tensile modulus of elasticity | dry test specimen | N/mm ² | 3200 |
| | Test specimens standard atmosphere 23°C/50% RH | N/mm ² | 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 | 23 |
| | Test specimens standard atmosphere 23°C/50% RH | N/mm ² | 23 |
| Impact strength – Charpy | dry test specimen | kJ/m ² | 30 |
| Notched impact strength | Charpy dry test specimen | kJ/m ² | 4 |
| | Test specimens standard atmosphere 23°C/50% RH | kJ/m ² | 4 |
| | - Izod dry test specimen | kJ/m ² : J/m | 2 ; 20 |
| | Test specimens standard atmosphere 23°C/50% RH | kJ/m ² : J/m | 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 | 21 |
| | Test specimens standard atmosphere 23°C/50% RH | kV/mm | 21 |
| Volume resistivity | dry test specimen | Ohm.cm | 10 ¹⁷ |
| | Test specimens standard atmosphere 23°C/50% RH | Ohm.cm | 10 ¹⁷ |
| Surface resistivity | dry test specimen | Ohm | 10 ¹⁷ |
| | Test specimens standard atmosphere 23°C/50% RH | Ohm | 10 ¹⁷ |
| Dielectric constant: | @ 50Hz dry test specimen | - | 3.4 |
| | Test specimens standard atmosphere 23°C/50% RH | - | 3.4 |
| | @ 1MHz dry test specimen | - | 3.2 |
| | Test specimens standard atmosphere 23°C/50% RH | - | 3.2 |
| Dissipation factor tan | @ 50Hz dry test specimen | - | 0.001 |
| | Test specimens standard atmosphere 23°C/50% RH | - | 0.001 |
| | @ 1 MHz dry test specimen | - | 0.014 |
| | Test specimens standard atmosphere 23°C/50% RH | - | 0.014 |
| Resistance to racking | dry test specimen | - | CTI 600 |
| | Test specimens standard atmosphere 23°C/50% RH | - | CTI 600 |