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 an outstanding wear resistance, but offers in comparison with ERTALYTE an even lower coefficient of friction as well as higher pressure-velocity capabilities.

Physical properties (indicative values *)

<table>
<thead>
<tr>
<th>PROPERTIES</th>
<th>Test methods</th>
<th>Units</th>
<th>VALUES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td></td>
<td></td>
<td>pale grey</td>
</tr>
<tr>
<td>Density</td>
<td>ISO 1183-1</td>
<td>g/cm³</td>
<td>1.44</td>
</tr>
</tbody>
</table>

- **Water absorption:**
  - after 24/60 h immersion in water of 23 °C (1)
  - satuation in air of 23 °C / 50 % RH
  - at saturation in water of 23 °C

- **Thermal Properties (2):**
  - Melting temperature (DSC, 10 °C/mm)
  - Glass transition temperature (DSC, 20 °C/mm) (3)

- **Thermal conductivity at 23 °C**
- Coefficient of linear thermal expansion:
  - average value between 23 and 60 °C
  - average value between 23 and 100 °C

- **Temperature of deflection under load:**
  - method A: 1.8 MPa

- **Max. allowable service temperature in air:**
  - for short periods (4)
  - continuously : for 5,000 / 20,000 h (5)

- **Min. service temperature (6):**

Familiarity:

- **"Oxygen Index"**
- according to UL 94 (3 / 6 mm thickness)

Mechanical Properties at 23 °C (6)

- **Tension test (9):**
  - compressive stress at yield / tensile stress at break (10)
  - tensile stress at yield (10)
  - tensile strain at yield (10)
  - tensile strain at break (10)
  - tensile modulus of elasticity (11)

- **Compression test (12):**
  - compressive stress at 1 / 2 / 5 % nominal strain (1)

- **Charpy impact strength - Unnotched (13):**

- **Charpy impact strength - Notched:**

- **Ball indentation hardness (14):**

- **Rockwell hardness (14):**

Electric Properties at 23 °C

- **Electric stress (15):**

- **Volume resistivity:**

- **Surface resistivity:**

- **Relative permittivity ε:**
  - at 100 Hz
  - at 1 MHz

- **Dielectric dissipation factor tan δ:**
  - at 100 Hz
  - at 1 MHz

- **Comparative tracking index (CTI):**

Note: 1 g/cm³ = 1,000 kg/m³; 1 MPa = 1 N/mm²; 1 kV/mm = 1 MV/m.

AVAILABILITY: see "Delivery Programme"

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(1) According to method 1 of ISO 62 and done on discs ø 50 mm x 3 mm.
(2) The figures given for these properties are for the most part derived from raw material supplier data and other publications.
(3) Values for this property are only given here for semicrystalline ones.
(4) Only for short time exposure (6 low hours) in applications where no or only a very low load is applied to the material.
(5) Temperature resistance over a period of 5,000/20,000 hours. After these periods of time, there is a decrease in tensile strength - measured at 23 °C - of about 50 % as compared with the original value. The temperatute values given here are thus based on the thermal oxidative degradation which takes place and causes a reduction of properties. Note, however, that the maximum allowable service temperature depends in many cases essentially on the duration and the magnitude of the mechanical stresses to which the material is subjected.
(6) Impact strength decreasing with decreasing temperature, the minimum allowable service temperature is practically mainly determined by the extent to which the material is subjected to impact. The value given here is based on unfavourable impact conditions and may consequently not be considered as being the absolute practical limit.

These estimated ratings, derived from raw material supplier data and other publications, are not intended to reflect hazards presented by the material under actual fire conditions. There is no 'UL File Number' available for Ertalyte TX stock shapes.

(7) These estimated ratings, derived from raw material supplier data + of dry material (+) are for the most part average values of tests run on test specimens machined out of rods ø 40 / 60 mm. Except for the hardness tests, the test specimens were then taken from an area mid between centre and outside diameter, with their length in longitudinal direction of the rod (parallel to the extrusion direction). Considering the very low water absorption of Ertalyte TX, the values for the mechanical and electrical properties of this material can be considered as being practically the same for dry (+) and moisture conditioned (+++) test specimens.
(8) The figures given for the properties of dry material (+) are for the most part average values of tests run on test specimens machined out of rods ø 40 - 60 mm. However, they are not guaranteed and they should not be used to establish material specification limits nor used alone as the basis of design.

This table, mainly to be used for comparison purposes, is a valuable help in the choice of a material. The data listed here fall within the other publications, are not intended to reflect hazards presented by the material under actual fire conditions. There is no 'UL File Number’ available for Ertalyte TX stock shapes.

Legend:

+ : values referring to dry material
++ : values referring to material in equilibrium with the standard atmosphere 23 °C / 50 % RH (mostly derived from literature)
(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15)