

PETP (POLYETHYLENE TEREPHTHALATE) MATERIAL DATA SHEET

- High mechanical strength, stiffness and hardness
- Low and constant coefficient of friction
- Annealing treatment to improve dimensional stability
- Very good dimensional stability
- Better resistance to acids than nylon or polyacetal
- Physiologically inert (suitable for food contact)
- Very good creep resistance
- Excellent wear resistance (comparable to or even better than nylon grades)
- Excellent stain resistance
- Good electrical insulating properties
- Good resistance to high energy radiation (gamma- and X-rays)

| PROPERTIES | Test methods | Units | VALUES |
|--|------------------|-------------------|-----------------------|
| Colour | - | - | Natural/black |
| Density | ISO 1183-1 | g/cm ³ | 1.38 |
| Water absorption | ISO 62 | % | 0.3 |
| Thermal Properties | | | |
| Melting temperature (DSC, 10°C/min) | ISO 11357-1/-3 | °C | 255 |
| Thermal conductivity at 23°C | - | W/(K.m) | 0.28 |
| Coefficient of linear thermal expansion: | | | |
| - average value between 23 and 60°C | - | m/(m.K) | 60 x 10 ⁻⁶ |
| - average value between 23 and 100°C | - | m/(m.K) | 80 x 10 ⁻⁶ |
| Max. allowable service temperature in air: | | | |
| - for short periods | - | °C | 180 |
| - continuously : for min. 5,000/20,000 h | - | °C | 115/100 |
| Min. service temperature | - | °C | -20 |
| Flammability | | | |
| - "Oxygen Index" | ISO 4589-1/-2 | % | 25 |
| - according to UL 94 (3 / 6 mm thickness) | - | - | HB / HB |
| Mechanical Properties at 23°C | | | |
| Tension test | | | |
| - tensile stress at yield | ISO 527-1/-2 | MPa | 85 |
| - tensile strain at break | ISO 527-1/-2 | % | 15 |
| - tensile strain at yield | ISO 527-1/-2 | % | 4 |
| - tensile modulus of elasticity | ISO 527-1/-2 | MPa | 3000 |
| Charpy impact strength - notched | ISO 179-1/1eA | kJ/m ² | 2 |
| Shore hardness | ISO 868 | Scale D | 84 |
| Electrical Properties at 23 °C | | | |
| Electric strength | IEC 60243-1 | kV/mm | 20 |
| Volume resistivity | DIN EN 62631-3-1 | Ohm.cm | 10 ¹⁸ |
| Surface resistivity | DIN EN 62631-3-2 | Ohm | 10 ¹⁶ |
| Dielectric dissipation factor tan δ at 50 Hz | IEC 60250 | - | 0.001 |
| Dielectric constant | IEC 60250 | - | 3.4 |
| Comparative tracking index (CTI) | IEC 60112 | - | 600 |

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

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