

PETP (POLYETHYLENE TEREPHTHALATE) MATERIAL DATA SHEET

- 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)

PROPERTIES	Test methods	Units	VALUES
Colour	-	-	Natural/black
Density	ISO 1183-1	g/cm ³	1.39
Water absorption:			
- after 24/96 h immersion in water of 23°C	ISO 62	mg	6/13
	ISO 62	%	0.07/0.16
- at saturation in air of 23°C / 50% RH	-	%	0.25
- at saturation in water of 23°C	-	%	0.50
Thermal Properties			
Melting temperature (DSC, 10°C/min)	ISO 11357-1/-3	°C	245
Thermal conductivity at 23°C	-	W/(K.m)	0.29
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
Temperature of deflection under load:			
- method A: 1.8 MPa	ISO 75-1/-2	°C	80
Max. allowable service temperature in air:			
- for short periods	-	°C	160
- continuously : for min. 5,000/20,000 h	-	°C	115/100
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 / tensile stress at break	ISO 527-1/-2	MPa	90 / -
- tensile strength	ISO 527-1/-2	MPa	90
- 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	3500
Compression test			
- compressive stress at 1 / 2 / 5 % nominal strain	ISO 604	MPa	16 / 51 / 103
Charpy impact strength - unnotched	ISO 179-1/1eU	kJ/m ²	50
Charpy impact strength - notched	ISO 179-1/1eA	kJ/m ²	2
Izod impact strength - notched	ISO 180/A	kJ/m ²	2
Ball indentation hardness	ISO 2039-1	N/mm ²	170
Rockwell hardness	ISO 2039-2	-	M 96
Electrical Properties at 23 °C			
Electric strength	IEC 60243-1	kV/mm	22
Volume resistivity	IEC 60093	Ohm.cm	> 10 ¹⁴
Surface resistivity	ANSI/ESD STM 11.11	Ohm/sq.	> 10 ¹³
Relative permittivity ε _r : - at 100 Hz	IEC 60250	-	3.4
- at 1 MHz	IEC 60250	-	3.2
Dielectric dissipation factor tan δ : - at 100 Hz	IEC 60250	-	0.001
- at 1 MHz	IEC 60250	-	0.014
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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