

PETP Polyethylene Terephthalate

Specimen dry, Room temperature

Properties	Unit	Test Method	PETP
Mechanical Properties			
Yield stress	Mpa	ISO 527	88
Tensile Strength	Mpa	ISO 527	88
Elongation at break	%	ISO 527	10
Modulus of elasticity in tension	Mpa	ISO 527	3400
Bending Modulus (flexural test)	Mpa	ISO 178	3300
Flexural Strength	Mpa	ISO 178	130
Charpy Impact strength +23 °C	kJ/m ²	ISO 179/1eU	82
Charpy notched Impact strength +23 °C	kJ/m ²	ISO 179/1eA	3
Shore D Hardness	---	ISO 868	81
Ball indentation hardness	N/mm ²	ISO 2039-1	177
Compressive Modulus	Mpa	ISO 604	2400
Compressive stress at 1/2/5% nominal strain ¹	Mpa	ISO 604	23/53/100
Thermal Properties			
Heat distortion temperature, Method A	°C	ISO 75	100
Melting temperature	°C	ISO 3146	255
Glass transition temperature	°C	ISO 3146	---
Max. service temperature for few hours operation	°C	---	160
Service Temperature long term	°C	---	100
Minimum service temperature	°C	---	-20
Thermal coefficient of linear expansion	1/K.10 - 5	DIN 53752	6
Thermal conductivity Method A	W/(k.m)	---	---
Specific heat capacity	J/(g.K)	IEC 1006	---
Dielectric Properties			
Dielectric constant at 1MHZ	---	IEC 250	3,3
Dissipation factor tan δ at 1 MHZ	---	IEC 250	0,02
Dielectric strength	KV/mm	IEC 243	20
Volume resistivity	Ω.cm	IEC 93	10 ¹⁵
Surface resistivity	Ω	IEC 93	---
Resistance to Tracking (CTI)	---	DIN EN 60112	---
Additional Data			
Mass density	g/cm ³	ISO 1183	1,36
Moisture absorption at 23 °C, 50% RH	%	ISO 62	0,23
Water absorption at 23 °C	%	ISO 62	0,5
Flammability according to UL Standard	---	UL 94	HB
Resistance to wear ²	µm/km	ISO 7148-2	2,5

¹ (1 mm/mm)

² Ra = 0,35 - 0,45 µm (steel disc), V = 0,3 m/s, p = 3 N/mm², Time > 16 h