

Main features

PET is a material of high density, rigidity and hardness, very stable dimensionally. It has excellent mechanical strength, wear resistance and extraordinary smoothness given by a low coefficient of friction (because self-lubricating). In addition, PET has good creep resistance, low moisture absorption, high acid resistance and can be used at high temperatures (up to 110 °C).

Applications

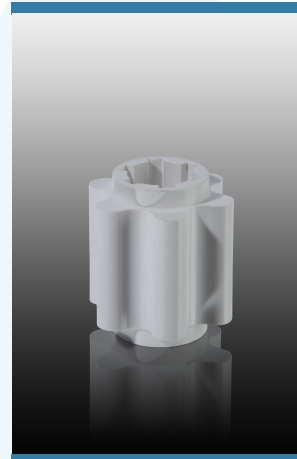
Cams
Bushings
Bearings
Gears
Pads
Sliding guides
Mechanical details in general

Application sectors

Building and lifting industry
Recycling and waste management
Medical and Pharmaceutical
Food Automotive
Mechanic Naval
Electrical and Semiconductor

FDA Compatibility YES

Available colours



PHYSICAL PROPERTIES

REGULATIONS

UM

PET

PHYSICAL PROPERTIES			
Density	DIN53479	g/cm ³	1.37
Water absorption (50% at 23° C)	**DIN53495	%	0.2
Maximum temp. for use in the air for short duration	-	°C	170
Maximum temperature of use in continuous air	-	°C	110
Minimum temperature of use in continuous air	-	°C	-20

MECHANICAL PROPERTIES			
Yield stress/tensile strength (σ_s)	*DIN53455 (4)	N/mm ²	81
Elongation at break (ϵ_s)	ISO 527	%	10
Breaking load (σ_r)	DIN53455	N/mm ²	-
Elongation at break (ϵ_r)	ISO 527	%	10
Impact resistance	*DIN53453	kJ/m ²	NR
Impact resistance, notched test	*DIN53453	kJ/m ²	4
Rockwell hardness	DIN53465	Scala M	M96
Compression test, load 1% deform. nominal	*DIN53454 (3)	N/mm ²	105
Elasticity module	*DIN53457 (5)	N/mm ²	3100

THERMIC PROPERTIES			
Melting temperature	-	°C	244
VICAT softening temperature	DIN53460	°C	-
Deformation temperature under bending load	DIN53461	°C	80
Coefficient of linear thermal expansion (α)	DIN53752	K ⁻¹ X10 ⁻⁴	0.7÷0.8
Thermal conductivity at 23°	DIN52612	W/(Kxm)	0.31

ELECTRICAL PROPERTIES			
Volume resistivity	**DIN53482	Ω /cm	10 ¹⁴
Surface resistivity	**DIN53482	Ω	10 ¹⁴
Dielectric constant at 10 ³ HZ (on thickness of 1 mm.)	**DIN53483	-	-
Dielectric dissipation factor (tan δ) a 10 ³ HZ	**DIN53483	-	-
Dielectric strength (on thickness of 1 mm.)	**DIN53481	kV/mm	60
Electrical leakage resistivity	112/030TI	-	CTI600

OTHER PROPERTIES			
Possibility of gluing	-	-	No
Absence of physiological risks	FDA	-	Yes
Dry friction coefficient on steel	DIN53375	-	0.25
Flammability	UL94	-	HB
UV stability	-	-	-

* : MEASUREMENTS ON TEST TUBES IN ANHYDROUS STATE

(3): ON CYLINDERS Ø 12X30 MM

(4): TRACTION SPEED 5 MM/MIN

** : MEASUREMENTS ON EQUILIBRIUM TUBES WITH U.R. 50% AT A TEMPERATURE OF 23° C

(5): TRACTION SPEED 1 MM / MIN

(6): TRACTION SPEED 20 MM/MIN