



# PET

Polyethylene Terephthalate | Precision Engineering Plastic

✓ Excellent FDA Compliance

Material Type

**PET (Semi-Crystalline)**

Form: Flat / Plate / Rod  
 Combustion: **HB (UL 94)**

## MATERIAL DESCRIPTION

PET (Polyethylene Terephthalate) is a semi-crystalline engineering plastic preferred in the production of precision mechanical parts with its high dimensional stability, low coefficient of friction and superior surface quality. Its elastic modulus of 3000-3500 MPa, yield stress of 80-90 MPa and high rigidity, competing with POM and PA, enable it to be used safely in food contact components and pharmaceutical industry applications with FDA approval.

## MECHANICAL AND PHYSICAL PROPERTIES (ISO/ASTM)

Feature	Unit	Value	Feature	Unit	Value
Intensity	g/cm <sup>3</sup>	1.38 – 1.40	Shore D Hardness	—	<b>85</b>
Yield Stress	MPa	80 – 90	Friction Coefficient	—	<b>0.20 – 0.25</b>
Yield Elongation	%	4 – 5	Melting Temperature	°C	<b>~ 255</b>
Breaking Stress	MPa	60	Softening Temperature	°C	<b>170 – 180</b>
Elongation at Break	%	15 – 30	Work. Gene. Coefficient	10 <sup>-4</sup> K <sup>-1</sup>	<b>0.6</b>
Elasticity Modulus	MPa	3000 – 3500	Dielek. Strength	kV/mm	<b>~ 20</b>
Impact Resistance	kJ/m <sup>2</sup>	Low (2-4)	Surface Resistance	Ohm	<b>10<sup>15</sup></b>
Water Absorption (24h)	%	0.2	Service Temperature	°C	<b>-20 / +100</b>

## AREAS OF APPLICATION

Precision Mechanical Parts

Food Packaging Lines (FDA)

Pharmaceutical Industry Components

Electrical Insulation Parts

Conveyor Components

Gear and Bearings

## CHEMICAL RESISTANCE AND GENERAL PROPERTIES

It has good resistance to acids; However, it is weak against concentrated alkalis. It offers moderate to good resistance to organic solvents. With its excellent dimensional stability and surface quality, it is reliable in the production of parts with precise tolerances. UV resistance is good; Due to limited weldability, mechanical joining is preferred in large constructions. Due to its low impact resistance, it should be evaluated carefully in applications requiring impact. It is widely preferred in applications requiring dimensional precision and chemical safety in the food, pharmaceutical, electronics and electrical industries.

The technical information specified in this document reflects the reference values of international ISO/ASTM standards. Chemical resistance may vary depending on concentration, temperature and exposure time.