



PTFE—Teflon®

Polytetrafluoroethylene | Pure PTFE

✓ Excellent FDA Compliance

Material Type

PTFE (Teflon)

Form: Flat / Plate / Rod / Pipe

Combustion Class: **VO — NON-COMBUSTIBLE**

MATERIAL DESCRIPTION

PTFE (Polytetrafluoroethylene) is an engineering material that offers the highest performance among all plastics in terms of chemical resistance, temperature range (-200/+260°C) and electrical insulation. It is considered the "universal solution" of the industry with zero water absorption, extremely low coefficient of friction (0.05-0.10) and complete resistance to almost all chemicals. FDA-approved pure PTFE is widely used as valve seals, coatings and insulation elements in the food, pharmaceutical and chemical industries.

MECHANICAL AND PHYSICAL PROPERTIES (ISO/ASTM)

Feature	Unit	Value	Feature	Unit	Value
Intensity	g/cm ³	2.14 – 2.20	Shore D Hardness	—	55 – 60
Yield Stress	MPa	15 – 25	Friction Coefficient	—	0.05 – 0.10
Yield Elongation	%	20 – 30	Melting Temperature	°C	~ 327
Breaking Stress	MPa	25 – 35	Continuous Use	°C	~ 150
Elongation at Break	%	250 – 400	Work. Gene. Coefficient	10 ⁻⁴ K ⁻¹	1.2 – 1.5
Elasticity Modulus	MPa	~ 700	Dielek. Strength	kV/mm	50 – 80
Impact Resistance	kJ/m ²	Unbreakable	Surface Resistance	Ohm	10¹⁷
Water Absorption (24h)	%	0	Service Temperature	°C	-200 / +260

AREAS OF APPLICATION

Valve and Gasket Systems

Chemical Line Coatings

Electrical Insulation Elements

Food and Pharmaceutical Line Components

Low Friction Guides

Aerospace Parts

CHEMICAL RESISTANCE AND GENERAL PROPERTIES

It has complete resistance to almost all chemicals — acids, bases, solvents, oxidants and hydrocarbons; only molten alkali metals and fluorine gas are exceptions. Water absorption is zero; Dimensional stability is excellent. It is in fireproof (VO) class; It preserves its chemical structure even at high temperatures. Thanks to its low coefficient of friction, it does not require lubrication of belt-pulley, slide surface and seals. It cannot be joined by traditional welding method; Special methods are applied with gluing. It is an indispensable material in the most challenging conditions of the chemical, electronics, aviation, textile and food 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.

CORUM BRONZE

E-mail : info@corumbronz.com | Web : www.corumbronz.com