

PLASTIC-CRAFT Teflon®

PTFE — Polytetrafluoroethylene

845-358-3010
ecom@plastic-craft.com
www.plastic-craft.com

The gold standard for chemical resistance and non-stick performance. PTFE offers the widest service temperature range of any plastic (–400°F to +500°F), the lowest coefficient of friction, and near-universal chemical inertness — making it indispensable in sealing, bearing, and chemical processing applications.

STOCK AVAILABILITY

Sheets, rods, tubes, and custom profiles in virgin, reprocessed, glass-filled, and carbon-filled grades. Most sizes ship from stock.

KEY HIGHLIGHTS

Widest service temp range
Lowest coefficient of friction
Near-universal chemical resistance
Excellent electrical insulation
FDA & USDA compliant
Non-stick / non-wetting surface

✓ Virtually inert to all chemicals, solvents & acids

COMMON APPLICATIONS

Gaskets, seals & O-rings
Bearings & bushings
Valve seats & packing
Electrical insulators
Lab equipment & linings
Semiconductor wafer handling
Food processing equipment

GRADES AVAILABLE

Virgin (unfilled)
Glass-filled (15%, 25%)
Carbon-filled (25%)
Bronze-filled (60%)
Graphite-filled
MoS₂-filled
Reprocessed

MATERIAL PROPERTIES — TYPICAL VALUES (VIRGIN PTFE)

PROPERTY	ASTM	TYPICAL VALUE	UNITS
PHYSICAL			
Specific Gravity	D792	2.14 – 2.20	—
Water Absorption, 24h	D570	< 0.01	%
MECHANICAL			
Tensile Strength, Ultimate	D638	3,000 – 5,000	psi (21–34 MPa)
Tensile Modulus	D638	58,000	psi (400 MPa)
Elongation at Break	D638	200 – 400	%
Flexural Modulus	D790	80,000	psi (550 MPa)
Compressive Strength (1% def.)	D695	1,700	psi (12 MPa)
Impact, Izod Notched	D256	3.5	ft-lb/in (187 J/m)
Hardness, Shore D	D2240	D50 – D65	—
Coefficient of Friction (dynamic)	D1894	0.04 – 0.10	vs. steel
THERMAL			
Max Continuous Service	—	500	°F (260°C)
Min Service Temperature	—	–400	°F (–240°C)
Melting Point	D3418	621	°F (327°C)
CTE (Linear)	D696	5.5 × 10 ^{–5}	in/in/°F
Thermal Conductivity	C177	1.7	BTU·in/hr·ft²·°F
ELECTRICAL			
Volume Resistivity	D257	> 10 ¹⁸	ohm·cm
Dielectric Strength	D149	480	V/mil (19 kV/mm)
Dielectric Constant, 1MHz	D150	2.1	—
Dissipation Factor, 1MHz	D150	< 0.0003	—
FLAMMABILITY			
UL Flammability Rating	UL 94	V-0	—
Limiting Oxygen Index	D2863	> 95	%

PROCESSING / FABRICATION NOTES: Cannot be melt-processed conventionally — sintered from powder | Excellent machinability to tight tolerances | Cold flows (creeps) under sustained load — allow for this in designs | Use sharp tools with positive rake angles

CHEMICAL RESISTANCE: Virtually inert to all chemicals, solvents, acids, and bases at temperatures up to 500°F. **EXCEPTIONS:** molten alkali metals, elemental fluorine, and certain fluorinated compounds at high temperatures.

Typical values; not to be used as specifications. Actual values may vary by grade, manufacturer, and processing conditions. Contact Plastic-Craft for grade-specific data.