

Property	PTFE
Appearance	Ivory-white, opaque
Density ($g.cm^{-3}$)	2.15
Melting Point (°C)	327
Max. Service Temperature (°C)	290
Chemical Resistance	Excellent
Water absorption	Nil
Hardness (Shore)	60
Tensile Strength at 23°C (MPa)	20-40
Elongation at break (%)	250-500
Flammability	Non-flammable
Electrical Resistance ($Ohms.m^{-1}$)	10^{18}
Cost Index	1.0

PTFE (Polytertrafluoroethylene) provides unmatched chemical resistance at temperatures to 300℃. Because its carbon chains are completely fluorinated, PTFE is chemically inert to the following broad range of commercial chemicals.

-All acids including hydrofluoric, hydrochloric, sulfuric and aqua regia.
-All chlorides - organic and inorganic
-All sulfates - organic and inorganic
-All bleach solutions
-All solvents
-All caustics
-All phenols
-All peroxides

Combined with the chemical inertness of PTFE are its unusual non stick properties. Thus a PTFE lined pipe system eliminates or minimizes buidup of deposits on the pipe walls which otherwise would reduce flow and possibly affect processing operations.

Because of mechanical and thermal expansion factors, PTFE lined pipe ad fittings are not recommended above 260℃. Althouge there are cases where they have given satisfactory service aboe this temperature.

Only molten alkali metals, such as sodium or potassium, a few fluorochemicals, such as chlorine trifluoride or oxygen difluoride. and liquid or gaseous fluorine can have chemical effect on these materials below their respective upper temperature limts.

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