

PTFE Tubing

PTFE, or polytetrafluoroethylene, is a polymeric material that has unique characteristics such as water repellence, oil repellence and non-tackiness, in addition to excellent heat & chemical resistance, non-stick, Low friction, bio-compatibility. Especially, it can be supplied with chemical instruments.

Properties:

- Approved for food Industries
- Maximum service temperature of 260°C/500°F
- Chemically resistant to all common solvents
- Maintains mechanical strength at high temperatures
- Low gas and chemical permeability
- Smoother surface texture



Applications

Aircraft Industries PTFE tubings are the non-flammable fluoropolymers that have lower friction coefficient which make them able to work properly under extreme temperature and pressure that's why these tubings are being used in the aircraft industries to wrap the wiring and cables.

Automotive Industries In the automobile engine, for fuel evaporation and fuel rails a high quality tubing is used which is made of Teflon PTFE which has low gas permeability.

Electrical Industries In electrical industries, to cover the electric wires and cables a high quality Teflon PTFE tubing is used that can bear the high temperature and protect the wire from any cuts. Also, these tubings are available in multi-colors that helps to identify the wires during the connection at homes or offices.

Medical Apparatus and Devices Fluoropolymers are used in medical industries to manufacture various instruments and devices like drainage tubings, ventilators, earpieces, aprones, gloves and other artificial tissues. Along with these, many functional devices which doctors use in biochemical analysis of human body are also made of the Teflon.

Food Industries In food industries for food processing special rollers are used. To expand the lifeline of these rollers wrap of Teflon FEP roll covers are done which are also non-sticky in nature that helps to maintain the quality of the product.

Seflon®

Textile Industries The transfer of chemicals in the pipes used in the textile industries cause corrosion. So, to avoid this problem Teflon PTFE tubings are used and also on the textile rollers the coating of PTFE done.

3D Printing Industries In 3D printing, the filament should be transferred to the printing nozzle which have to perform under high temperature range. Since, the PTFE tubing has high temperature coefficient along with non-sticky nature which helps to easily slip the material from the nozzle so that it is most preferable polymer in the 3D printing industries.



Chemical Industries Non-alkali nature of the Teflon PTFE make it able to use in the chemical industries where transfer of the highly sensitive fluids is a common thing.

Pressure Chart

ID x OD	Room Temperature Destructive Pressure (Mpa) {kgf/cm ² G}	Minimum Bend Radius [mm]
2 x 3	5.5 { 56 }	7
3 x 4	3.6 { 37 }	10
4 x 6	5.5 { 56 }	13
6 x 8	3.6 { 37 }	25
8 x 10	2.7 { 28 }	48
10 x 12	2.2 { 22 }	75
16 x 19	2.1 { 21 }	115
1.59 x 3.17	10.8 { 110 }	4
3.17 x 6.35	11.0 { 112 }	8
4.35 x 6.35	5.1 { 52 }	15
6.35 x 9.52	5.5 { 56 }	20
7.52 x 9.52	2.9 { 30 }	45
9.52 x 12.7	3.6 { 37 }	50
10.7 x 12.7	2.1 { 21 }	80
15.83 x 19.05	2.2 { 22 }	115

*** The Values given above are intended as representative values, not standard values*

Properties of Fluoropolymers PTFE

PROPERTIES	UNIT	ASTM	PTFE
		TEST METHOD	
Melting Point	°C	-	327
Specific Gravity	-	D792	2.14-2.20
Elongation	%	D638	200-400
Coefficient of Dynamic friction	-	0.69MPa	0.1
		{7kgf/cm ³ }	
		3m/min	
Max. Service Temperature	°C	Unloaded	260
Dielectric breakdown strength (Short term)	MV/m	D149	19
	kV/mm(3.2mm thickness)		
Anti arcing property	sec	D495	>300
Water absorption (24h)	%	D570	0
Oxygen index	-	D2863	>95
Effect of direct sunlight	-	-	No
Effect of weak acid	-	D543	No
Effect of strong acid	-	D543	No
Effect of weak alkali	-	D543	No
Effect of strong alkali	-	D543	No

Size Available *(Note: other sizes & profile can be made upon request)*

ID mm	OD mm
0.5	1.7
0.7	1.3
0.7	1.5
1	2
1	3
1.59	3.17
2	3
2	4
3	4
3	5

ID mm	OD mm
3.97	6.35
4	6
4.35	6.35
4.75	6.35
5	6
5	8
6	8
6.35	9.52
7.52	9.52
8	10

ID mm	OD mm
9	10
9	11
9.52	12.7
10	12
10.7	12.7
11	12
12	14
12	15
13	15
13	16

ID mm	OD mm
14	16
16	18
16	19
17	19
18	20
19	21
20	23
22	25
25	27