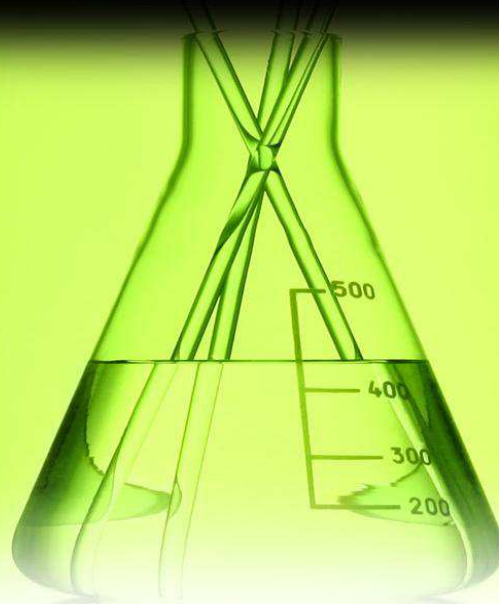




High Performance FLUOROPOLYMER'S



Chemical



Electrical



Aero Space



Pharmaceutical



Semi - Conductor



Telecommunication

PRODUCT LINE

Fluoropolymer Tubing

- Extruded Teflon PTFE , FEP , PFA , UHP PFA & ETFE
- Convoluted PTFE , FEP & ETFE
- Corrugated FEP & PFA
- Spiral wrap
- PTFE Rod & Beading
- Retractable & Coiled Tubing

Special Applications

- FEP Coated Copper
- Teflon Encapsulation
- Etching
- Flaring
- Slitting & Cuffing
- Thermosetting
- Product Assembly
- Custom Cutting

Heat Shrinkable Fluoropolymer Tubing

- PTFE Tubing 2:1 & 4:1
- FEP Tubing 1.3:1 & 1.6:1
- FEP Roll Covers 1.25:1
- Dual Wall PTFE / FEP

Heat Shrinkable Teflon Probe Covers

- Teflon FEP Probe Cover
- Teflon PFA Probe Cover

Heat Shrinkable Polyolefin

- Single Wall 2:1 , 3:1 , 4:1
- Adhesive Lined 2:1 , 3:1
- Heavy Wall Lined



Extruded PTFE Tubing & Sleeving

PTFE Fluoropolymer Tubing is regarded as the ultimate standard in heat and chemical resistance. With an upper service temperature of 500 F and chemically resistant to almost all chemicals and solvents the physical properties of PTFE are unmatched by any other material. PTFE Tubing is called to meet a wide range of military and commercial requirements.

AWG Size	Min ID	Nominal ID	Max ID	Standard Wall	Thin Wall	Light Wall
32	.008	.010	.012	.005 +/- .002	.005 +/- .002	***
30	.010	.012	.015	.009 +/- .002	.009 +/- .002	.006 +/- .002
28	.013	.015	.018	.009 +/- .002	.009 +/- .002	.006 +/- .002
26	.016	.018	.021	.009 +/- .002	.009 +/- .002	.006 +/- .002
24	.020	.022	.026	.012 +/- .002	.010 +/- .003	.006 +/- .002
23	.023	.026	.029	.012 +/- .002	.010 +/- .003	.006 +/- .002
22	.025	.028	.032	.012 +/- .002	.010 +/- .003	.006 +/- .002
21	.029	.032	.035	.012 +/- .002	.010 +/- .003	.006 +/- .002
20	.032	.034	.038	.016 +/- .003	.012 +/- .003	.006 +/- .002
19	.036	.038	.042	.016 +/- .003	.012 +/- .003	.006 +/- .002
18	.040	.042	.046	.016 +/- .003	.012 +/- .003	.006 +/- .002
17	.045	.047	.052	.016 +/- .003	.012 +/- .003	.006 +/- .002
16	.051	.053	.058	.016 +/- .003	.012 +/- .003	.006 +/- .002
15	.057	.059	.065	.016 +/- .003	.012 +/- .003	.006 +/- .002
14	.064	.066	.072	.016 +/- .003	.012 +/- .003	.008 +/- .002
13	.072	.076	.081	.016 +/- .003	.012 +/- .003	.008 +/- .002
12	.081	.085	.091	.016 +/- .003	.012 +/- .003	.008 +/- .002
11	.091	.095	.101	.016 +/- .003	.012 +/- .003	.008 +/- .002
10	.102	.106	.112	.016 +/- .003	.015 +/- .003	.008 +/- .002
9	.114	.118	.124	.020 +/- .004	.015 +/- .003	.008 +/- .002
8	.129	.133	.139	.020 +/- .004	.015 +/- .003	.008 +/- .002
7	.144	.148	.155	.020 +/- .004	.015 +/- .003	.008 +/- .002
6	.162	.166	.174	.020 +/- .004	.015 +/- .003	.010 +/- .003
5	.182	.186	.195	.020 +/- .004	.015 +/- .003	.010 +/- .003
4	.204	.208	.218	.020 +/- .004	.015 +/- .003	.010 +/- .003
3	.229	.234	.244	.020 +/- .004	.015 +/- .003	.010 +/- .003
2	.258	.263	.273	.020 +/- .004	.015 +/- .003	.010 +/- .003
1	.289	.294	.305	.020 +/- .004	.015 +/- .003	.010 +/- .003
0	.325	.330	.342	.020 +/- .004	.015 +/- .003	.012 +/- .003

Material : 100 % virgin PTFE Resins

Standard Color : Natural

Available in : Black , Brown, Red, Orange, Yellow, Green , Blue, Violet, Gray, White

Services : Etching is available for applications requiring bonding. Precision and tight tolerance cutting.

Specifications :

- ❖ ASTM D3295 CLASSES A,B,C,D,E
- ❖ MIL - I - 22129
- ❖ AMS 3653 , 3654 , 3655

PTFE Tubing complies with UL-224 and is VW-1 rated



PTFE - FEP - PFA

Smooth Bore Tubing

Fluoropolymer PTFE and FEP tubing from Tef Cap is designed to industry specifications such as MIL, UL, AMS & ASTM. For chemical resistance, high temperature applications and high dielectric strength Fluoropolymer Tubing meets your challenge.

Extruded Fractional Tubing

Fractional Size	Min ID	Nominal ID	Max ID	Standard Wall	Thin Wall	Light Wall
1/8	.120	.125	.130	.020 +/- .004	.015 +/- .003	***
3/16	.188	.192	.198	.020 +/- .004	.015 +/- .003	.010 +/- .003
1/4	.250	.255	.260	.020 +/- .004	.015 +/- .003	.010 +/- .003
5/16	.313	.321	.332	.020 +/- .004	.015 +/- .003	.012 +/- .003
3/8	.375	.387	.394	.025 +/- .005	.015 +/- .003	.015 +/- .003
7/16	.438	.451	.458	.025 +/- .005	.018 +/- .004	.018 +/- .004
1/2	.500	.515	.520	.025 +/- .005	.018 +/- .004	.018 +/- .004
5/8	.625	.643	.650	.025 +/- .005	.020 +/- .004	.020 +/- .004
3/4	.750	.772	.775	.030 +/- .006	.025 +/- .005	.020 +/- .005
7/8	.875	.902	.927	.035 +/- .007	***	***
1	1.000	1.030	1.060	.035 +/- .007	***	***
1 1/4	1.250	1.287	1.325	.040 +/- .007	***	***
1 1/2	1.500	1.550	1.580	.045 +/- .007	***	***

Heavy Construction Tubing

Size	I. D.	O. D.	Nominal Wall	Fraction
1/4	.125 +/- .005	.250 +/- .005	.063	1/8 x 1/4
5/16	.188 +/- .005	.313 +/- .005	.063	3/16 x 5/16
3/8	.250 +/- .005	.375 +/- .005	.063	1/4 x 3/8
7/16	.313 +/- .005	.438 +/- .005	.063	5/16 x 7/16
1/2	.375 +/- .005	.500 +/- .006	.063	3/8 x 1/2
9/16	.438 +/- .006	.563 +/- .006	.063	7/16 x 9/16
5/8	.500 +/- .006	.625 +/- .006	.063	1/2 x 5/8
11/16	.563 +/- .006	.688 +/- .006	.063	9/16 x 11/16
3/4	.625 +/- .006	.750 +/- .006	.063	5/8 x 3/4
13/16	.688 +/- .006	.813 +/- .006	.063	11/16 x 13/16
7/8	.750 +/- .006	.875 +/- .006	.063	3/4 x 7/8
15/16	.813 +/- .006	.938 +/- .006	.063	13/16 x 15/16
1	.875 +/- .010	1.00 +/- .010	.063	7/8 x 1

Industrial Wall Tubing

Size	I. D.	O. D.	Nominal Wall	Fraction
1/32	.031 +/- .004	.063 +/- .005	.015	1/32 x 1/16
1/16	.063 +/- .005	.125 +/- .005	.030	1/16 x 1/8
3/32	.094 +/- .005	.156 +/- .005	.030	3/32 x 5/32
1/8	.125 +/- .005	.188 +/- .005	.030	1/8 x 3/16
3/16	.188 +/- .005	.250 +/- .005	.030	3/16 x 1/4
1/4	.250 +/- .005	.313 +/- .005	.030	1/4 x 5/16
5/16	.313 +/- .005	.375 +/- .005	.030	5/16 x 3/8
3/8	.375 +/- .005	.438 +/- .005	.030	3/8 x 7/16
7/16	.438 +/- .005	.500 +/- .006	.030	7/16 x 1/2
1/2	.500 +/- .006	.563 +/- .006	.030	1/2 x 9/16
9/16	.563 +/- .006	.625 +/- .006	.030	9/16 x 5/8
5/8	.625 +/- .006	.688 +/- .006	.030	5/8 x 11/16
11/16	.688 +/- .006	.750 +/- .006	.032	11/16 x 3/4
3/4	.750 +/- .006	.830 +/- .006	.040	***
7/8	.875 +/- .006	.965 +/- .006	.045	***
1	1.000 +/- .010	1.100 +/- .010	.050	***
1 1/8	1.125 +/- .015	1.215 +/- .015	.045	***
1 1/4	1.250 +/- .015	1.340 +/- .015	.040	***
1 1/2	1.500 +/- .015	1.580 +/- .015	.040	***

Metric PTFE Tubing

I. D.	O. D.	Nominal Wall	Decimal
2 MM	4 MM	1 MM	.079 x .157
4 MM	6 MM	1 MM	.157 x .236
6 MM	8 MM	1 MM	.236 x .315
8 MM	10 MM	1 MM	.315 x .394
10 MM	12 MM	1 MM	.394 x .472

Metric FEP Tubing

I. D.	O. D.	Nominal Wall	Decimal
2 MM	4 MM	1 MM	.078 x .157
3 MM	5 MM	1 MM	.118 x .197
4 MM	6 MM	1 MM	.157 x .236
5 MM	7 MM	1 MM	.197 x .276
6 MM	8 MM	1 MM	.236 x .315
7 MM	9 MM	1 MM	.276 x .354
8 MM	10 MM	1 MM	.315 x .394
9 MM	11 MM	1 MM	.354 x .433
10 MM	12 MM	1 MM	.394 x .472
11 MM	13 MM	1 MM	.433 x .512
12 MM	14 MM	1 MM	.472 x .551
14 MM	16 MM	1 MM	.551 x .630

Fluoroplastics

Properties	ASTM	UNIT	PTFE	FEP	PFA	ECTFE	MFA
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Mechanical Properties

Specific Gravity	D792		2.130 - 2.20	2.12 - 2.17	2.12 - 2.17	1.68	2.12 - 2.17
Elongation	D638	%	200 - 450	250 - 330	280 - 400	200 - 300	300 - 600
Tensile Strength	D638	PSI	2,000-45,000	2,800 - 5,000	4,000 - 4,500	6,600 - 7,800	3,500 - 4,400
Flexural Strength	D790	PSI	no break	no break	no break	7000	N/A
Compressive Strength	D695	PSI	3500	2200		1276 - 1711	2200
Tensile Elastic Modulus	D638	PSI	57000	50,000	72,500 - 87,000	240,000	65,000-78,000
Flexural Modulus	D790	PSI	71,000 - 85,000	78,000-92,000	94,000-99,000	240,000	95,000
Flex Life	D2176	MIT Cycles	> 1,000,000	5,000 - 80,000	10,000 - 50,000	N/A	10,000 - 100,000
Hardness Durometer		Shore D	D56 - D65	D55	D55 - D60	D75 - D90	D55 - D60
Coefficient of Friction		On Steel	0.02	0.05	0.02	0.19	0.02
Abrasion Resistance	Taber	1000 Revs.	12	14 - 20	9 - 17	0.005	10 - 17
Impact Strength IZOD	D256	Notched ft/lbs/in	3	no break	no break	no break	no break

Thermal Properties

Melting Point		°C	327	260	305	240	285
		°F	621	500	582	464	545
Upper Service Temp		°C	260	204	260	150 - 170	260
		°F	500	400	500	300 - 340	500
Flamibility		UL 94	V-0	V-0	V-0	V-0	V-0
Linear Coefficient of Thermal Expansion	D696	10 ⁻⁵ °C	>11.6	8.0 - 10.5	13	N/A	11 - 12
Heat of Fusion		BTU/LB	29-37	11	13	N/A	25.6
Heat of Combustion		BTU/LB	2,200	2,200	2,300	N/A	6,200
Low Temperature Embrittlement		°C	- 268	- 268	- 268	- 76	- 232
		°F	- 450	- 450	- 450	- 105	- 450

Electrical Properties

Dielectric Constant	D150	10 ³ Hz	2.1	2.1	2.1	2.5	2.0
Dielectric Strength 10 mil Film	D149	v/mil	≥ 1,400	≥ 1,400	≥ 1,400	N/A	2,000
Volume Resistivity	D257	ohm-cm	> 10 ¹⁸	> 10 ¹⁸	> 10 ¹⁸	> 10 ¹⁶	> 10 ¹⁷
Surface Resistivity	D257	ohm/sq.	> 10 ¹⁷	> 10 ¹⁷	> 10 ¹⁷	> 10 ¹⁴	> 10 ¹⁷

General Properties

Chemical / Solvent Resistance	D543		Excellent	Excellent	Excellent	Excellent	Excellent
Water Absorption 24hr	D570	%	<.01	<.01	<.03	<.01	<.03
Deformation Under Load	D621	100 °C	5.0	5.0	2.4	2.6	N/A
Refractive Index			1.35	1.338	1.34	1.447	N/A
Limiting Oxygen Index	D2863	%	> 95	> 95	> 95	60	> 95
Properties	ASTM	UNIT	PTFE	FEP	PFA	ECTFE	MFA