

ULTRA HIGH PURITY TUBING AND PIPE

FEP Tubing

FEP (Fluorinated Ethylene Propylene) is a copolymer of Tetrafluoroethylene and Hexafluoropropylene that is fully fluorinated and impervious to chemical attack from a wide range of acids, bases, and solvents. It has a smooth inner bore, is non-toxic, and meets FDA and pharmaceutical standards for food and drug conveyance. The strong molecular bond between carbon and fluorine produces materials that are:

- Capable of wide variations in operating temperatures (-100°F to 400°F)
- Compatible with the widest array of organic and inorganic chemistries without degradation
- Completely non-flammable (UL 94)
- Low permeability
- Low friction coefficient, non-shedding, non-particle generating, and non-aging

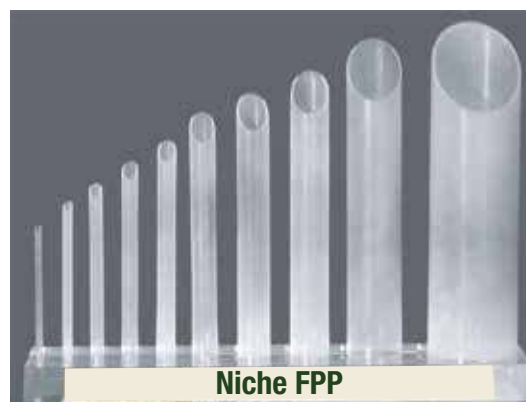
These properties make these fluoroplastics excellent choices for chemical conveyance particularly in high purity applications.

Perfluoropolymers also possess excellent electrical properties such as:

- Low dielectric constant, 1MHz
- Low dissipation factor
- High arc resistance
- High surface and volume resistivity

Key Features

- Temperature service range of -100°F to 400°F
- Excellent optical clarity
- Low permeability
- Exceptional physical and chemical resistance

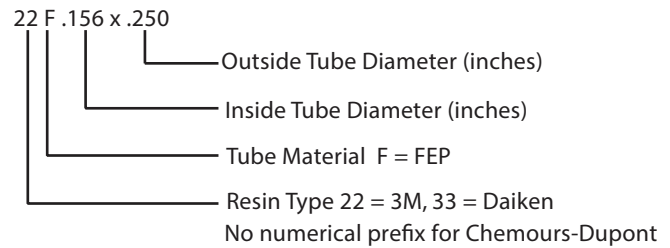


PHYSICAL PROPERTIES	RESIN TYPE
	FEP
Ultimate Tensile Strength, Psi	3,000 (73° F)
Ultimate Elongation	300 (73°F)
	500 (482°F)
Coefficient of Friction (Dynamic)	0.30 (AVG)
Flexural Modulus Psi X 10 ³ (ASTM D-790)	90 (73°F)
Impact Strength Notched Izod (Ft.Lb/In.) (ASTM D-256)	no break (73° F) 2.9 (-65° F)
Continuous Use Temperature, °F	400
Specific Gravity (ASTM D-792)	2.12-2.17
Dielectric Strength (ASTM D-149) Short Term Volts/Mil	2,000
Dielectric Constant (ASTM D-150)	2.1
Melting Point, °F	500

Ordering Information

Please note that only typical sizes are listed in the tables on the following pages and custom sizing can be completed upon request.

Part Number System



Packaging and Handling

Niche Fluoropolymer Tubing is produced and packaged under strict standards of cleanliness, with capped ends and tubing sealed in plastic for clean storage. All tubing spools are plastic. Additionally, Niche FEP tubing can be supplied in 25, 50, and 100 foot coils as well as 500 and 1000 foot spools and custom lengths without any delay. Plastic spools can be overwrapped with plastic for added protection. The overwrapped plastic spools are differentiated using a color coding system.

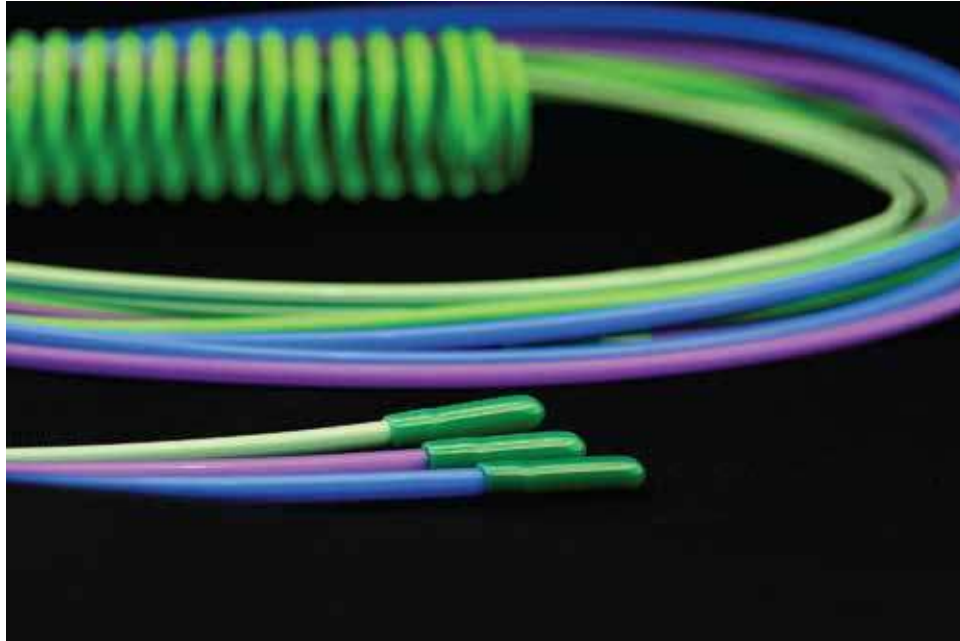


Industrial Wall

PART NUMBER	SIZE (in.)		WALL THICKNESS	I.D./O.D TOL.	BURST PRESSURE (PSI) AT 72°F
	I.D.	O.D.			
22 F .031 X .063	0.031	0.063	0.015 + 0.003	0.004	1672
22 F .031 X .094	0.031	0.094	0.030 + 0.005	0.004	3292
22 F .063 X .125	0.063	0.125	0.030 + 0.005	0.005	1596
22 F .094 X .156	0.094	0.156	0.030 + 0.005	0.005	1069
22 F .125 X .188	0.125	0.188	0.030 + 0.005	0.005	817
22 F .188 X .250	0.188	0.250	0.030 + 0.005	0.005	534
22 F .156 X .250	0.156	0.250	0.047 + 0.005	0.005	976
22 F .250 X .313	0.250	0.313	0.030 + 0.005	0.005	408
22 F .313 X .375	0.313	0.375	0.030 + 0.005	0.006	321
22 F .375 X .438	0.375	0.438	0.030 + 0.005	0.006	272
22 F .438 X .500	0.438	0.500	0.030 + 0.005	0.007	229
22 F .500 X .563	0.500	0.563	0.030 + 0.005	0.007	204
22 F .563 X .625	0.563	0.625	0.030 + 0.007	0.007	178
22 F .625 X .688	0.625	0.688	0.030 + 0.007	0.008	163
22 F .688 X .750	0.688	0.750	0.030 + 0.007	0.009	146
22 F .750 X .813	0.750	0.813	0.030 + 0.007	0.009	136
22 F .875 X .969	0.875	0.969	0.047 + 0.007	0.010	176
22 F 1.000 X 1.094	1.000	1.094	0.047 + 0.007	0.010	148

Heavy Wall

Part Number	SIZE (in.)		WALL THICKNESS	I.D./O.D TOL.	BURST PRESSURE (PSI) AT 72°F
	I.D.	O.D.			
22 F .063 x .188	0.063	0.188	0.062 + 0.008	0.005	3202
22 F .125 x .250	0.125	0.250	0.062 + 0.008	0.005	1620
22 F .188 x .313	0.188	0.313	0.062 + 0.008	0.005	1080
22 F .250 x .375	0.250	0.375	0.062 + 0.008	0.005	810
22 F .313 x .438	0.313	0.438	0.062 + 0.008	0.006	647
22 F .375 x .500	0.375	0.500	0.062 + 0.008	0.006	540
22 F .438 x .563	0.438	0.563	0.062 + 0.008	0.007	462
22 F .500 x .625	0.500	0.625	0.062 + 0.008	0.007	405
22 F .563 x .688	0.563	0.688	0.062 + 0.008	0.008	360
22 F .625 x .750	0.625	0.750	0.062 + 0.008	0.008	324
22 F .688 x .813	0.688	0.813	0.062 + 0.008	0.009	294
22 F .750 x .875	0.750	0.875	0.062 + 0.008	0.009	270
22 F .875 x 1.000	0.875	1.000	0.062 + 0.008	0.010	231
22 F 1.000 x 1.125	1.000	1.125	0.062 + 0.008	0.010	203
22 F 1.250 x 1.400	1.250	1.400	0.075 + 0.008	0.010	194
22 F 1.308 x 1.500	1.308	1.500	0.096 + 0.008	0.010	238



FEP tubes are available in clear and custom colors.

For custom sizing or specific resin requests, contact sales manager at info@nichefpp.com or +1 302-382-1767.

Niche

FLUOROPOLYMER PRODUCTS

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Fluoropolymer resins are generally considered inert to most chemicals. Under certain conditions of pressure and temperature, or combinations of chemicals, fluoropolymer tubing should not be used. Please contact Niche for discussion of your specific process to be certain that our products are appropriate for your intended use.

Adequate ventilation should be used where fluoropolymers are heated during tube repairs. Flu-like symptoms occur from exposure to vapors evolved from fluoropolymers at very high temperatures, up to 800F or from smoking materials that contain particles of fluoropolymers. Symptoms pass within 48 hours and are only adverse effects observed in humans to date. Unheated fluoropolymers are essentially inert and are nonirritating to the skin.

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