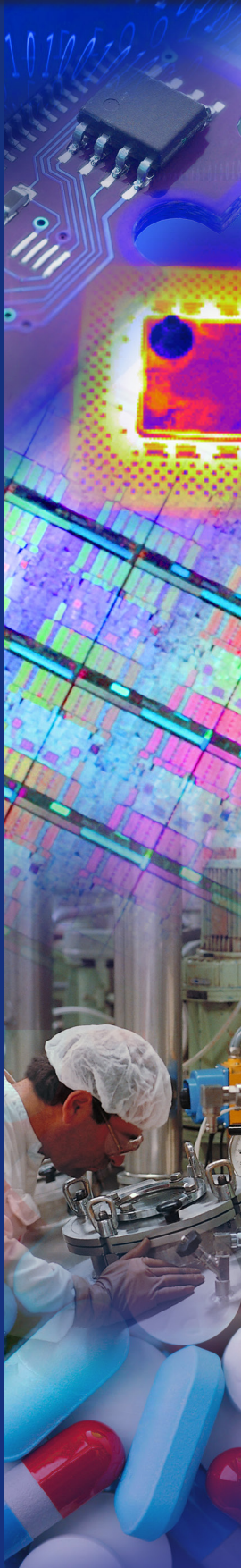


ULTRA HIGH PURITY TUBING AND PIPE

High Purity PFA Tubing (UHP)

A vertical strip on the left side of the page shows a microscopic view of a semiconductor chip with various colored patterns and a central square component.

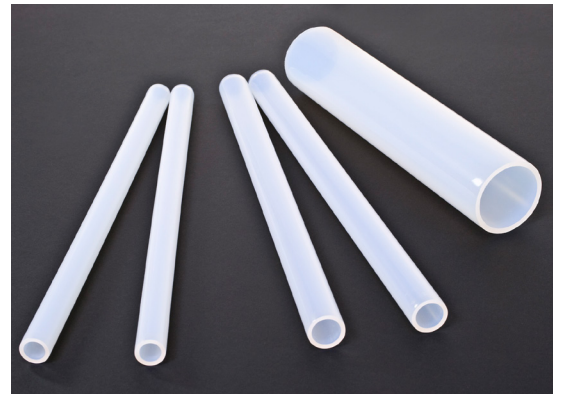
AMETEK produces Fluoropolymer tubing designed to meet the exact high purity requirements of the semiconductor and pharmaceutical industries. AMETEK produces tubing under strict standards utilizing premium high purity grades of PFA. Our UHP-PFA tubing can be manufactured in a class 10,000 clean room environment and meets F-57 standards. Specifications defining exact resin grade and/or manufacturer can easily be accommodated. UHP-PFA exhibits a high temperature capability, along with the low extractable levels and low reactivity characteristics required in ultrahigh-purity chemical and water applications.

What Separates Us from the Competition

AMETEK offers unmatched traceability with all of our tubing products. All tubing must be blacklight inspected before it is packaged to make sure there is no dust or dirt in the material. In addition to inspection, the tubing is double wrapped and double bagged so that our products can reach our customers in the same high purity condition that they were packaged in.

Key Properties

- Unmatched purity that meets the toughest standards in the semiconductor market
- Temperature service range of -320°F to 500°F
- Excellent optical clarity
- Low permeability
- Exceptional physical and chemical resistance



Packaging and Handling

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



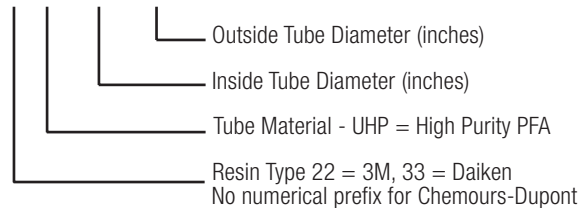
PHYSICAL PROPERTIES	RESIN TYPE
	UHP
Ultimate Tensile Strength, Psi	4,000 (73° F) 2,000 (482° F)
Ultimate Elongation	300 (73°F) 500 (482°F)
Coefficient of Friction (Dynamic)	0.25 (AVG)
Flexural Modulus Psi X 10 ³ (ASTM D-790)	90 (73°F) 10 (482°F)
Impact Strength Notched Izod (Ft.Lb/In.) (ASTM D-256)	no break (73° F) 1.2 (-320° F)
Continuous Use Temperature, °F	500
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)	2.03
Melting Point, °F	582

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

22 UHP .156 x .250



Industrial Wall Tubing

PART NUMBER	SIZE (in.)		WALL THICKNESS	I.D./O.D TOL.	BURST PRESSURE (psi) AT 72°F	BEND RADIUS
	I.D.	O.D.				
22 P .031 x .063	0.031	0.063	0.015 ± 0.003	0.004	2071	.20
22 P .031 x .094	0.031	0.094	0.030 ± 0.005	0.004	4078	-
22 P .063 x .125	0.063	0.125	0.030 ± 0.005	0.005	1975	.25
22 P .094 x .156	0.094	0.156	0.030 ± 0.005	0.005	1323	.40
22 P .125 x .188	0.125	0.188	0.030 ± 0.005	0.005	1011	.70
22 P .188 x .250	0.188	0.250	0.030 ± 0.005	0.005	662	1.70
22 P .156 x .250	0.156	0.250	0.047 ± 0.005	0.005	1209	-
22 P .250 x .313	0.250	0.313	0.030 ± 0.005	0.005	506	3.40
22 P .313 x .375	0.313	0.375	0.030 ± 0.005	0.006	397	5.00
22 P .375 x .438	0.375	0.438	0.030 ± 0.005	0.006	337	6.50
22 P .438 x .500	0.438	0.500	0.030 ± 0.005	0.007	284	8.00
22 P .500 x .563	0.500	0.563	0.030 ± 0.005	0.007	253	9.50
22 P .563 x .625	0.563	0.625	0.030 ± 0.007	0.007	221	10.50
22 P .625 x .688	0.625	0.688	0.030 ± 0.007	0.008	202	10.70
22 P .688 x .750	0.688	0.750	0.030 ± 0.007	0.009	181	-
22 P .750 x .813	0.750	0.813	0.030 ± 0.007	0.009	169	11.20
22 P .875 x .969	0.875	0.969	0.047 ± 0.007	0.010	216	15.00
22 P 1.000 x 1.094	1.000	1.094	0.047 ± 0.007	0.010	189	21.00

Heavy Wall Tubing

PART NUMBER	SIZE (in.)		WALL THICKNESS	I.D./O.D TOL.	BURST PRESSURE (psi) AT 72°F	BEND RADIUS
	I.D.	O.D.				
22 P .063 x .188	0.063	0.188	0.062 ± 0.008	0.005	3981	-
22 P .125 x .250	0.125	0.250	0.062 ± 0.008	0.005	2007	1.00
22 P .188 x .313	0.188	0.313	0.062 ± 0.008	0.005	1334	1.50
22 P .250 x .375	0.250	0.375	0.062 ± 0.008	0.005	1003	1.75
22 P .313 x .438	0.313	0.438	0.062 ± 0.008	0.006	801	2.63
22 P .375 x .500	0.375	0.500	0.062 ± 0.008	0.006	669	3.00
22 P .438 x .563	0.438	0.563	0.062 ± 0.008	0.007	573	4.00
22 P .500 x .625	0.500	0.625	0.062 ± 0.008	0.007	502	4.60
22 P .563 x .688	0.563	0.688	0.062 ± 0.008	0.008	446	5.00
22 P .625 x .750	0.625	0.750	0.062 ± 0.008	0.008	401	8.50
22 P .688 x .813	0.688	0.813	0.062 ± 0.008	0.009	365	-
22 P .750 x .875	0.750	0.875	0.062 ± 0.008	0.009	334	10.00
22 P .875 x 1.000	0.875	1.000	0.062 ± 0.008	0.010	287	12.00
22 P 1.000 x 1.125	1.000	1.125	0.062 ± 0.008	0.010	251	16.50
22 P 1.250 x 1.400	1.250	1.400	0.075 ± 0.008	0.010	241	-
22 P 1.308 x 1.500	1.308	1.500	0.096 ± 0.008	0.010	295	-
22 UHP 1.750 x 2.000	1.750	2.000	0.125 ± 0.008	0.010	287	-

Metric Sizes

PART NUMBER	SIZE (mm)		WALL THICKNESS
	I.D.	O.D.	
22 UHP 2 MM x 4 MM	2	4	1
22 UHP 4 MM x 6 MM	4	6	1
22 UHP 6 MM x 8 MM	6	8	1
22 UHP 8 MM x 10 MM	8	10	1
22 UHP 10 MM x 12 MM	10	12	1
22 UHP 12 MM x 14 MM	12	14	1
22 UHP 14 MM x 16 MM	14	16	1



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

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1M617P (040091)

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 AMETEK 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 may occur from exposure to vapors evolved from fluoropolymers at very high temperatures, up to 800°F or from smoking materials that contain particles of fluoropolymers. Symptoms pass within 48 hours and are the only adverse effects observed in humans to date. Unheated fluoropolymers are essentially inert and are nonirritating to the skin.

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