

# TRANSPORT CRITICAL FLUID WITH CONFIDENCE™

# **INDEX**

ALTAFLUOR® 100 PTFE	3
ALTAFLUOR® 100 PTFE	4
ALTAFLUOR® 200 FEP	5
ALTAFLUOR® 200 FEP	6
ALTAFLUOR® 200 FEP	7
ALTAFLUOR® 2E0 FEP ENVIRO	8
ALTAFLUOR® 350 THV FLEX	9
ALTAFLUOR® 400 PFA	10
ALTAFLUOR® 400 PFA	11
ALTAFLUOR® 400 PFA	12
ALTAFLUOR® 450 HP PFA	13
ALTAFLUOR® 450 HP PFA	14
ALTAFLUOR® 450 HP PFA	15
ALTAFLUOR 450 SERIES DCHP DUAL CONTAINMENT HP PFA TUBING	16
ALTAFLUOR® 480 UHP PFA	17
ALTAFLUOR® 480 UHP PFA	18
ALTAFLUOR® 480 UHP PFA	19
ALTAFLUOR® 480 SERIES DUAL CONTAINMENT TUBING UHP PFA	20
ALTAFLUOR® 500 PVDF	21
ALTAFLUOR® 550 PVDF FLEX	22
ALTAFLUOR® 550 PVDF FLEX	23
COILED HOSE ORDER FORM	24
ALTAFLO MATERIAL SELECTION CHART	25
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# **ALTAFLUOR® 100 PTFE**

PTFE (polytetrafluoroethylene) was first developed by the E.I. DuPont Co. PTFE is the most flexible of all fluoropolymers offered. ALTAFLUOR® 100 PTFE has the broadest temperature range of any fluoropolymer and can resist highly corrosive liquids and gases even at elevated temperatures. The smooth surface finish, lowest coefficient of friction and lubricity make it ideal for bushing or bearing applications. Lengths may be limited due to batch size - please call to confirm available lengths at time of order. ALTAFLUOR® 100 is compatible with most standard fittings (not suitable for use with flare-type fittings).

# **ALTAFLUOR® 100 FEATURES**

- · 100% virgin grade PTFE resins
- · Most flexible fluoropolymer
- Chemically inert and resistant to nearly all industrial chemicals and solvents
- · Low permeability
- · Smooth non-stick surface finish
- · Lowest coefficient of friction
- · Excellent electrical properties
- Non-Flammable
- Non-Toxic
- FDA Compliant
- Suitable for use with conventional fittings

# **APPLICATIONS**

- Laboratory
- Chemical Process
- Analytical and process equipment
- Cryogenic applications
- · Electrical applications
- · High Temperature applications
- Automotive

# **SPECIFICATIONS**

**General:** Meets or exceeds the requirements listed in ASTM D 3295 (except for dimensional on specific items)

Temperature: -410° F to 500° F continuous / 550° F short-term

Flammability: PTFE tubing resists combustion and does not promote flame spread. PTFE resin used for production of ALTAFLUOR® 100 series is UL 94 VO rated

**FDA:** PTFE is approved for use in food contact applications in compliance with FDA regulation: 21 CFR 177.1550

# **ALTAFLUOR® 100 PTFE - TUBING**

PART NUMBER	ID	OD	+/-	WALL	+/-
Industrial Wall					
100-0062-015-XX	1/32	1/16	.003	0.015	.003
100-0094-030-XX	1/32	3/32	.005	0.030	.005
100-0125-030-XX	1/16	1/8	.005	0.030	.005
100-0188-030-XX	1/8	3/16	.005	0.030	.005
100-0250-030-XX	3/16	1/4	.005	0.030	.005
100-0313-030-XX	1/4	5/16	.005	0.030	.005
100-0375-030-XX	5/16	3/8	.005	0.030	.005
100-0500-030-XX	7/16	1/2	.005	0.030	.005
<b>Custom Wall</b>					
100-0250-040-XX	0.17	1/4	.005	0.040	.005
100-0375-040-XX	0.295	3/8	.005	0.040	.005
100-0250-047-XX	5/32	1/4	.005	0.047	.005
Heavy Wall					
100-0250-062-XX	1/8	1/4	.005	0.062	.005
100-0313-062-XX	3/16	5/16	.005	0.062	.005
100-0375-062-XX	1/4	3/8	.005	0.062	.005
100-0500-062-XX	3/8	1/2	.005	0.062	.005
Metric					
100-0157-040-XX	0.079	157	.005	0.040	.005
	2mm	4mm		1mm	
100-0236-040-XX	0.157	0.236	.005	0.040	.005
	4mm	6mm		1mm	
100-0315-040-XX	0.236	0.315	.005	0.040	.005
	6mm	8mm		1mm	
100-0394-040-XX	0.315	0.394	.005	0.040	.005
	8mm	10mm		1mm	
100-0472-040-XX	0.394	0.472	.005	0.040	.005
	10mm	12mm		1mm	
100-0354-059-XX	0.236	0.354	.005	0.059	.005
	6mm	9mm		1.5mm	
100-0394-059-XX	0.276	0.394	.005	0.059	.005
	7mm	10mm		1.5mm	
100-0472-059-XX	0.354	0.472	.005	0.059	.005
	9mm	12mm		1.5mm	

Stocked in natural color - please consult factory for details on available colors.



# **ALTAFLUOR® 100 PTFE**

Due to the nature of applications involving the use of fluoropolymers, we suggest that all customers test product within the conditions specific to their application prior to use.

# **ALTAFLUOR® 100 PTFE - BEND RADIUS AND WORKING PRESSURE CHART**

PART NUMBER	OD	WALL	ID	BEND RADIUS	WORKING PRESSURE @ 73°F
Industrial Wall					
100-0062-015-XX	1/16	0.015	1/32	3/8"	270
100-0094-030-XX	3/32	0.030	1/32	1/2"	350
100-0125-030-XX	0.125	0.030	0.062	1/2"	443
100-0188-030-XX	0.188	0.030	0.125	3/4"	254
100-0250-030-XX	0.250	0.030	0.188	1"	172
100-0313-030-XX	0.313	0.030	0.250	1-3/4"	120
100-0375-030-XX	0.375	0.030	0.313	1-3/4"	100
100-0500-030-XX	0.500	0.030	0.438	6"	71
Custom Wall					
100-0250-040-XX	0.250	0.040	0.170	1"	310
100-0250-047-XX	0.250	0.047	0.156	3/4"	360
Heavy Wall					
100-0250-062-XX	0.250	0.062	0.125	1/2"	398
100-0313-062-XX	0.313	0.062	0.188	3/4"	356
100-0375-062-XX	0.375	0.062	0.250	1"	248
100-0500-062-XX	0.500	0.062	0.375	2-1/2"	150
Metric					
100-0157-040-XX	0.157	0.04	0.079	3/4"	455
	4mm	1mm	2mm		
100-0236-040-XX	0.236	0.040	0.157	1"	208
	6mm	1mm	4mm		
100-0315-040-XX	0.315	0.040	0.236	1-1/2"	156
	8mm	1mm	6mm		
100-0394-040-X X	0.394	0.040	0.315	2"	125
	10mm	1mm	8mm		
100-0472-040-XX	0.472	0.040	0.394	4"	104
	12mm	1mm	10mm		

The above information is based on tests performed at 73° F and can vary in individual applications based on parameters such as temperature, chemical concentration, pressure, etc. Please consult factory for details. For an estimate on burst pressure at ambient temperature we consider a 3:1 ratio when exposure temperature is 73° F. However Altaflo does not recommend exceeding the suggested Working Pressure listed.

# **ALTAFLUOR® 100 PTFE - PHYSICAL PROPERTIES**

PHYSICAL PROPERTY	ASTM TEST METHOD	UNITS	VALUES
Upper Service Temp. Long Term			500° F
Upper Service Temp. Short Term			550° F
Specific Gravity	D 792		2.15
Tensile Strength	D 1708	PSI	2500-3000
Elongation	D 638	%	200-400
Flex Modulus	D 790	PSI	27,000
MIT Flex Life	D 2176		1,000,000+
Hardness	D 2240	Shore D	60



# **ALTAFLUOR® 200 FEP**

FEP (fluorinated ethylene propylene) is an economical choice for applications requiring chemical resistance in combination with broad temperature exposure. ALTAFLUOR® 200 FEP offers excellent clarity, which makes it ideal for sight glass/flow monitoring applications. Additionally, the outstanding UV transmission rate of FEP makes it a clear choice for UV water purification systems.

ALTAFLUOR® 200 Series FEP will not impart taste or odor. ALTAFLUOR® 200 tubing may be used with flare or conventional fittings.

# **ALTAFLUOR® 200 FEATURES**

- 100% virgin grade high performance resins used to resist stress cracking
- Chemically inert to most industrial chemicals and solvents
- · High thermal stability
- · Excellent UV transmission
- · Low permeability
- APPLICATIONS
- · Chemical process
- · Laboratory applications
- UV water purification systems
- · Ground water monitoring

- · Moisture absorption nearly zero
- · FDA compliant for food contact
- Non-flammable
- Superior electrical insulation properties
- Available in smooth bore, convoluted and coiled hose constructions
- Food processing
- · Electrical Insulation
- Automotive
- · Paint Spray

# **SPECIFICATIONS**

**General:** Meets or exceeds the requirements listed in ASTM D 3296 and ASTM D 2116 Type IV

Temperature: -100°F to 400°F

Flammability: FEP resists combustion and does not promote flame spread FDA: ALTAFLUOR® 200 FEP is approved for use in food contact applications in compliance with FDA regulation: 21 CFR 177.1550

USP CLASS VI: ALTAFLUOR® 200 FEP meets the requirements of USP Class VI

 $\ensuremath{\mathsf{NSF}}$  : ALTAFLUOR® 200 FEP tubing is certified to NSF 51, NSF 61 and NSF 372



This ALTAFLUOR® 200 FEP has been tested and certified by WQA against NSF/ANSI 51, NSF/ANSI 61 to Commercial Hot (180° F/82° C), and NSF/ANSI 372 for lead free compliance.

# **ALTAFLUOR® 200 - FEP TUBING**

PART NUMBER	ID	OD	+/-	WALL	+/-
Industrial Wall					
200-0062-015-XX	1/32	1/16	.003	0.015	.003
200-0125-030-XX	1/16	1/8	.004	0.030	.003
200-0156-030-XX	3/32	5/32	.004	0.030	.003
200-0188-030-XX	1/8	3/16	.004	0.030	.003
200-0250-030-XX	3/16	1/4	.004	0.030	.003
200-0313-030-XX	1/4	5/16	.005	0.030	.003
200-0375-030-XX	5/16	3/8	.005	0.030	.003
200-0438-030-XX	3/8	7/16	.005	0.030	.003
200-0500-030-XX	7/16	1/2	.005	0.030	.003
200-0562-030-XX†	1/2	9/16	.005	0.030	.003
200-0625-030-XX†	9/16	5/8	.005	0.030	.003
200-0688-030-XX†	5/8	11/16	.005	0.030	.003
200-0750-030-XX†	11/16	3/4	.005	0.030	.003
Heavy Wall					
200-0188-062-XX	1/16	3/16	.005	0.062	.003
200-0250-062-XX	1/8	1/4	.005	0.062	.003
200-0313-062-XX	3/16	5/16	.005	0.062	.003
200-0375-062-XX	1/4	3/8	.005	0.062	.003
200-0438-062-XX	5/16	7/16	.005	0.062	.003
200-0500-062-XX	3/8	1/2	.005	0.062	.003
200-0625-062-XX	1/2	5/8	.005	0.062	.003
200-0750-062-XX	5/8	3/4	.005	0.062	.003
200-0875-062-XX†	3/4	7/8	.005	0.062	.003
200-1000-062-XX*	7/8	1	.005	0.062	.003
200-1125-062-XX*	1	1-1/8	.006	0.062	.003
200-1250-062-XX**	1-1/8	1-1/4	.006	0.062	.003
200-1375-062-XX**	1-1/4	1-3/8	.008	0.062	.003
200-1500-062-XX**†	1-3/8	1-1/2	.010	0.062	.003
200-1625-062-XX**†	1-1/2	1-5/8	.012	0.062	.003
200-1750-062-XX†**	1-5/8	1-3/4	.015	0.062	.003
200-2000-062-XX**†	1-7/8	2	.015	0.062	.003
200-2125-062-XX**†	2	2-1/8	.015	0.062	.003
Stock Custom Size					
200-0250-040-XX	.170	1/4	.004	0.040	.003
200-0250-047-XX	.156	1/4	.004	0.047	.003
200-0375-047-XX	.281	3/8	.005	0.047	.003
200-1100-050-XX*	1	1.10	.010	0.050	.003

- \* Straight length or reels
- \*\* Straight lengths only
- † Custom item please consult factory for lead time and minimum order requirements.

Additional sizes up to 4" OD are available as custom extrusions - minimum order requirements may apply. Please contact Altaflo office for details. Stocked in natural color - please consult factory for details on available colors.



# **ALTAFLUOR® 200 FEP**

Due to the nature of applications involving the use of fluoropolymers, we suggest that all customers test product within the conditions specific to their application prior to use.

# **ALTAFLUOR® 200 - FEP TUBING**

PART NUMBER	ID	OD	+/-	WALL	+/-
Metric Sizes					
200-0157-040-XX	.079	.157	.005	0.040	.003
	2mm	4mm		1mm	
200-0197-040-XX†	.118	.197	.005	0.040	.003
	3mm	5mm		1mm	
200-0236-040-XX	.157	.236	.005	0.040	.003
	4mm	6mm		1mm	
200-0276-040-XX†	.197	.276	.005	0.040	.003
	5mm	7mm		1mm	
200-0315-040-XX	.236	.315	.005	0.040	.003
	6mm	8mm		1mm	
200-0354-040-XX†	.276	.354	.005	0.040	.003
	7mm	9mm		1mm	
200-0394-040-XX	.315	.394	.005	0.040	.003
	8mm	10mm		1mm	
200-0433-040-XX†	.354	.433	.005	0.040	.003
	9mm	11mm		1mm	
200-0472-040-XX	.394	.472	.005	0.040	.003
	10mm	12mm		1mm	
200-0512-040-XX†	.433	.512	.005	0.040	.003
	11mm	13mm		1mm	
200-0551-040-XX	.472	.551	.005	0.040	.003
	12mm	14mm		1mm	
200-0630-040-XX	.551	.630	.005	0.040	.003
	14mm	16mm		1mm	
200-0354-059-XX†	.236	.354	.005	0.059	.003
	6mm	9mm		1.5mm	
200-0394-059-XX†	.276	.394	.005	.059	.005
	7mm	10mm		1.5mm	
200-0472-059-XX†	.354	.472	.005	0.059	.003
	9mm	12mm		1.5mm	

- Straight length or reels
- Straight lengths only
- † Custom item please consult factory for lead time and minimum order requirements. Additional sizes up to 4" OD are available as custom extrusions - minimum order requirements may apply. Please contact Altaflo office for details. Stocked in natural color please consult factory for details on available colors.

# ALTAFLUOR® 200 FEP - BEND RADIUS AND WORKING PRESSURE CHART

PART NUMBER	OD	WALL	ID	BEND RADIUS	WORKING PRESSURE @ 73°F
200-0125-030-XX	0.125	0.030	0.062	1/2"	445
200-0156-030-XX	0.156	0.030	0.094	1/2"	357
200-0188-030-XX	0.188	0.030	0.125	3/4"	296
200-0188-062-XX	0.188	0.062	0.062	1/2"	612
200-0250-030-XX	0.250	0.030	0.188	1"	223
200-0250-040-XX	0.250	0.040	0.170	1"	297
200-0250-047-XX	0.250	0.047	0.176	3/4"	349
200-0250-062-XX	0.250	0.062	0.135	1/2"	460
200-0230-002-XX 200-0313-030-XX	0.230	0.002	0.123	1-3/4"	178
200-0313-062-XX	0.313	0.030	0.230	1"	368
200-0315-002-XX			0.100	2-1/2"	148
	0.375	0.030		1"	
200-0375-062-XX	0.375	0.062	0.250	·	307
200-0438-030-XX	0.438	0.030	0.375	3-1/2" 2"	127
200-0438-062-XX	0.438	0.062	0.313		263
200-0500-030-XX	0.500	0.030	0.438	6"	111
200-0500-062-XX	0.500	0.062	0.375	2"	230
200-0625-030-XX	0.625	0.030	0.562	6-1/2"	89
200-0625-062-XX	0.625	0.062	0.500	3"	184
200-0750-030-XX	0.750	0.030	0.688	8"	74
200-0750-062-XX	0.750	0.062	0.625	6"	153
200-0875-062-XX	0.875	0.062	0.750	12"	132
200-1000-062-XX	1.000	0.062	0.875	22"	115
200-1125-062-XX	1.125	0.062	1.000	30"	75
200-1250-062-XX	1.250	0.062	1.125	N/A	70
Metric Sizes					
200-0157-040-XX	.157	0.040	.079	1-1/2"	464
	4mm	1mm	2mm		
200-0197-040-XX†	.197	0.040	.118	1-3/4"	380
	5mm	1mm	3mm		
200-0236-040-XX	.236	0.040	.157	2-1/2"	312
	6mm	1mm	4mm		
200-0276-040-XX†	.276	0.040	.197	2-1/2"	274
	7mm	1mm	5mm		
200-0315-040-XX	.315	0.040	.236	2-3/4"	234
	8mm	1mm	6mm		
200-0354-040-XX†	.354	0.040	.276	2-3/4"	210
	9mm	1mm	7mm		
200-0394-040-XX	.394	0.040	.315	2-3/4"	187
	10mm	1mm	8mm		
200-0433-040-XX†	.433	0.040	.354	4"	170
	11mm	1mm	9mm		
200-0472-040-XX	.472	0.040	.394	4"	156
	12mm	1mm	10mm		
200-0512-040-XX†	.512	0.040	.433		
	13mm	1mm	11mm		
200-0551-040-XX	.551	0.040	.472		
	14mm	1mm	12mm		
200-0630-040-XX	.630	0.040	.551		
	16mm	1mm	14mm		
200-0354-059-XX†	.354	0.059	.236	1"	290
	9mm	1.5mm	6mm		230
200-0472-059-XX†	.472	0.059	.354	2"	220
	12mm	1.5mm	9mm	_	
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# **ALTAFLUOR® 200 FEP**

Due to the nature of applications involving the use of fluoropolymers, we suggest that all customers test product within the conditions specific to their application prior to use.

# **ALTAFLUOR® 200 SERIES FEP - PHYSICAL PROPERTIES**

PHYSICAL PROPERTY	ASTM TEST METHOD	UNITS	VALUES
Upper Service Temp.			400° F
Specific Gravity	D 792		2.15
Tensile Strength	D 1708	PSI	4000
Elongation	D 638	%	400
Flex Modulus	D 790	PSI	90,000
MIT Flex Life	D 2176		200,000
Hardness	D 2240	Shore D	57-60

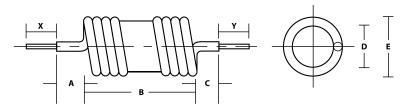
NOTE: The values represented are based on the use of 100% virgin grade high performance - low melt flow FEP resin as used in the production of ALTAFLUOR® 200 Series Tubing. When comparing data it is critical that performance values are listed for the grade of resin used.

# **ALTAFLUOR® 200 FEP - SCHEDULE 40 PIPE**

PART NUMBER	NOMINAL SIZE	ACTUAL OD	WALL	STOCK LENGTH
200-0540-088-0C	1/4"	.540" ± .010	.088"+.020,-0	10 FT
200-0840-109-0C	1/2"	.840" ± .010	.109"+.020,-0	10 FT
200-1050-113-0C	3/4"	1.050" ± .010	.113"+.020,-0	10 FT
200-1315-133-0C	1"	1.315" ± .010	.133"+.020,-0	10 FT
200-1660-140-0C*	1-1/4"	1.660" ± .015	.140"+.020,-0	10 FT
200-1900-145-0C*	1-1/2"	1.900" ± .015	.145"+.020,-0	10 FT
200-2375-154-0C*	2"	2.375" ± .015	.154"+.020,-0	10 FT

<sup>\*</sup>Custom item - please consult factory for lead time and minimum order requirements. Additional sizes and Schedule 80 Pipe available upon request.

#### **ALTAFLUOR® 200 FEP - COILED HOSE**



Custom item - see Coiled Hose Order Form for ordering information. Please consult factory for additional details.

# **ALTAFLUOR® 200 FEP - STANDARD CONVOLUTED CONSTRUCTION**

PART NUMBER	NOMINAL OD SIZE	ID MIN	ID MAX	OD MAX	NOMINAL WALL	CONVOLUTIONS PER INCH
20C-0375-020-XX*	3/8	0.251	0.275	0.375	0.020	6
20C-0500-023-XX*	1/2	0.364	0.375	0.500	0.023	6
20C-0625-025-XX*	5/8	0.485	0.500	0.625	0.025	5.5
20C-0750-025-XX*	3/4	0.608	0.625	0.750	0.025	5
20C-0875-025-XX*	7/8	0.730	0.750	0.875	0.025	4
20C-1000-025-XX*	1	0.860	0.875	1.000	0.025	3.5

<sup>\*</sup>Custom item - please consult factory for lead time and minimum order requirements. Please see ALTAFLUOR® 200 Ultra-Flex for stock items.

# **ALTAFLUOR® 200 FEP - ULTRA FLEX CONVOLUTED CONSTRUCTION**

PART NUMBER	NOMINAL OD SIZE	ID MIN	ID MAX	OD MAX	NOMINAL WALL	CONVOLUTIONS PER INCH
20U-0375-020-XX	3/8	0.251	0.275	0.375	0.020	9
20U-0500-023-XX	1/2	0.364	0.375	0.500	0.023	9
20U-0625-025-XX	5/8	0.485	0.500	0.625	0.025	9
20U-0750-025-XX	3/4	0.608	0.625	0.750	0.025	8
20U-1000-025-XX	1	0.860	0.875	1.000	0.025	8



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# **ALTAFLUOR® 2E0 FEP ENVIRO**

ALTAFLUOR® 2E0 ENVIRO SERIES FEP (fluorinated ethylene propylene), is designed specifically for use in environmental sampling applications. This cost effective choice is the preferred product for applications requiring the purity of FEP without exposure to aggressive chemical or other harsh conditions. ALTAFLUOR® 2E0 Series FEP does not impart taste, odor or other contaminants. For more critical application requirements, we suggest the use of ALTAFLUOR® 200 FEP or ALTAFLUOR® 400 PFA Tubing.

# **ALTAFLUOR® 2E0 FEATURES**

- 100% Virgin FEP
- · Excellent UV transmission
- · Low permeability
- · High thermal stability
- · Excellent clarity

#### **APPLICATIONS**

- · Ground water monitoring
- · Air sampling
- · Laboratory applications
- Water process

contaminants

Non-flammable

UV water purification systems

· Moisture absorption nearly zero

. Does not impart taste, odor or

#### **SPECIFICATIONS**

General: FEP meets the requirements listed in ASTM D2116

Temperature: -100°F to 400°F

Flammability: FEP is non-combustible and does not promote flame spread

# **ALTAFLUOR® 2E0 FEP ENVIRO - ENVIRO TUBING**

PART NUMBER	ID	OD	+/-	WALL	+/-
2E0-0250-030-XX	3/16	1/4	.005	.030	.003
2E0-0313-030-XX	1/4	5/16	.005	.030	.003
2E0-0375-030-XX	5/16	3/8	.005	.030	.003
2E0-0500-030-XX	7/16	1/2	.005	.030	.003
2E0-0250-040-XX	.170	1/4	.005	.040	.003
2E0-0375-062-XX	1/4	3/8	.005	.062	.003
2E0-0500-062-XX	3/8	1/2	.005	.062	.003

Additional sizes up to 4" OD are available as custom extrusions - minimum order requirements may apply. Please contact Altaflo office for details. This tubing is not recommended for aggressive chemical applications - please refer to ALTAFLUOR® 200 or ALTAFLUOR® 400.

#### **ALTAFLUOR® 2E0 FEP ENVIRO - BEND RADIUS AND WORKING PRESSURE CHART**

PART NUMBER	OD	WALL	ID	BEND RADIUS	<b>WORKING PRESSURE @ 73°F</b>
2E0-0250-030-XX	0.250	.030	0.188	1"	195
2E0-0313-030-XX	0.313	.030	0.250	1-3/4"	156
2E0-0375-030-XX	0.375	.030	0.313	2-1/2"	130
2E0-0500-030-XX	0.500	.030	0.438	6"	97
2E0-0250-040-XX	0.250	.040	0.170	1"	260
2E0-0375-062-XX	0.375	.062	0.250	1"	269
2E0-0500-062-XX	0.500	.062	0.375	2"	200

The above information is based on tests performed at 73° F and can vary in individual applications based on parameters such as temperature, chemical concentration, pressure, etc. Please consult factory for details. For an estimate on burst pressure at ambient temperature we consider a 3:1 ratio when exposure temperature is 73° F. However Altaflo does not recommend exceeding the suggested Working Pressure listed.

### **ALTAFLUOR® 2E0 FEP ENVIRO - PHYSICAL PROPERTIES**

PHYSICAL PROPERTY	ASTM TEST METHOD	UNITS	VALUES
Upper Service Temp. Long Term			400° F
Specific Gravity	D 792		2.12-2.17
Tensile Strength	D 1708	PSI	3500
Elongation	D 638	%	300-400
Flex Modulus	D 790	PSI	90,000
MIT Flex Life	D 2176		5000
Hardness	D 2240	Shore D	57-60



# **ALTAFLUOR® 350 THV FLEX**

THV FLEX (tetrafluoroethylene-hexafluoropropylene-vinylidene fluoride) has a unique combination of properties making it the preferred choice for many applications. THV is ideal for use in applications requiring excellent UV light transmission combined with the safety and flexibility of plastic. THV FLEX grade has the flexibility of traditional PVC flex tubing combined with chemical resistance much closer to that of FEP. THV is available in a variety of compositions each designed for specific performance values. ALTAFLUOR® 350 Series uses THV FLEX grade, which allows for greatest flexibility, permeation resistance and good chemical resistance, but with slightly reduced upper service temperature over other grades. ALTAFLUOR® 350 also has excellent bondability with other materials, which allows for multi-layer extrusions. For more product specific information please contact your ALTAFLO representative.

# **ALTAFLUOR® 350 FEATURES**

- 100% Virgin THV 221 FLEX Grade
- · Highest UV and visible light transmission of any fluoropolymer
- Most flexible fluoropolymer
- · Good chemical resistance
- · Superior weatherability
- · Excellent bondability
- · Excellent ozone resistance
- Extremely low permeation

# **APPLICATIONS**

- Laboratory
- · Solar energy
- UV purification systems
- · Fiber optic
- · Chemical process

#### **SPECIFICATIONS**

Temperature: -40 °F to 212 °F

Flammability: THV Flex grade resin is UL 94 VO rated. THV FLEX grade

resists combustion and does not promote flame spread

# **ALTAFLUOR® 350 THV FLEX - TUBING**

PART NUMBER	ID	OD	+/-	WALL	+/-
350-0250-030-0C	3/16	1/4	0.004	0.030	0.003
350-0250-040-0C	0.170	1/4	0.004	0.040	0.003
350-0250-062-0C	1/8	1/4	0.005	0.062	0.003
350-0375-062-0C	1/4	3/8	0.005	0.062	0.003
350-0500-062-0C	0.375	0.500	0.005	0.062	0.003
350-0375-062-0C	0.500	0.625	0.005	0.062	0.003

Additional sizes are available as custom items - minimum order requirements may apply. Please consult factory for additional sizes and availability.

# **ALTAFLUOR® 350 THV FLEX - BEND RADIUS AND WORKING PRESSURE CHART**

PART NUMBER	OD	WALL	ID	BEND RADIUS	<b>WORKING PRESSURE @ 73°F</b>
350-0250-030-0C	0.250	0.030	0.188	1"	223
350-0250-040-0C	0.250	0.040	0.170	1"	297
350-0250-062-0C	0.250	0.062	0.125	1/2"	460
350-0375-062-0C	0.375	0.062	0.250	1"	307

The above information is based on tests performed at 73° F and can vary in individual applications based on parameters such as temperature, chemical concentration, pressure, etc. Please consult factory for details. For an estimate on burst pressure at ambient temperature we consider a 3:1 ratio when exposure temperature is 73° F. However Altaflo does not recommend exceeding the suggested Working Pressure listed.

# **ALTAFLUOR® 350 SERIES THV FLEX - PHYSICAL PROPERTIES**

PHYSICAL PROPERTY	ASTM TEST METHOD	UNITS	VALUES
Upper Service Temp. Long Term			180° F
Specific Gravity	D 792		1.95
Tensile Strength	D 638	PSI	2900
Elongation	D		600
Flex Modulus	D 790	PSI	12,000
MIT Flex Life			N/A
Hardness	D 2240	Shore D	44

The above information is based on tests performed at 73° F and can vary in individual applications based on parameters such as temperature, chemical concentration, pressure, etc. Please consult factory for details. For an estimate on burst pressure at ambient temperature we consider a 3:1 ratio when exposure temperature is 73° F. However Altaflo does not recommend exceeding the suggested Working Pressure listed.



P: 973-300-3344

# **ALTAFLUOR® 400 PFA**

PFA (perfluoroalkoxy) is the product of choice for applications involving extreme chemical resistance combined with high temperature exposure. Although PFA is available in a variety of resin grades, ALTAFLUOR® 400 PFA tubing is made exclusively from the highest molecular weight resins available giving it superior physical properties making it suitable for even the most demanding applications. Altafluor 400 Series PFA does not impart taste or odor. ALTAFLUOR® 400 is compatible with flare or conventional type fittings.

# **ALTAFLUOR® 400 FEATURES**

- 100% virgin grade high performance resins used to resist stress cracking
- Chemically inert to nearly all industrial chemicals and solvents
- Higher thermal stability than with FEP
- · Lower permeability than with FEP
- Translucent

# **APPLICATIONS**

- Chemical process
- Heat exchangers
- · Laboratory applications
- Semiconductor

- · Moisture absorption nearly zero
- · FDA compliant for food contact
- Non-flammable
- Suitable for use with flare or conventional fittings
- Available in coiled hose and convoluted constructions
- Higher upper surface temperature vs. FEP
- · Flow monitoring
- · Food processing
- Electrical insulation
- Automotive

# **SPECIFICATIONS**

**General:** Meets or exceeds the requirements listed in ASTM D 6867-03 **Temperature:** -300  $^{\circ}$ F to 500  $^{\circ}$ F

**Flammability:** UL 94 VO rated. PFA resists combustion and does not promote flame spread

FDA: ALTAFLUOR® 400 PFA is approved for use in food contact applications in compliance with FDA regulation: 21 CFR 177.1550

**USP CLASS VI:** ALTAFLUOR® 400 meets the requirements of USP Class VI **NSF:** ALTAFLUOR® 400 PFA tubing is certified to NSF 51, NSF 61 and NSF 372



This ALTAFLUOR® 400 PFA has been tested and certified by WQA against NSF/ANSI 51, NSF/ANSI 61 to Commercial Hot (180° F/82° C), and NSF/ANSI 372 for lead free compliance.

# **ALTAFLUOR® 400 - PFA TUBING**

PART NUMBER	ID	OD	+/-	WALL	+/-
Industrial Wall					
400-0062-015-XX	1/32	1/16	.003	0.015	.003
400-0125-030-XX	1/16	1/8	.004	0.030	.003
400-0156-030-XX	3/32	5/32	.004	0.030	.003
400-0188-030-XX	1/8	3/16	.004	0.030	.003
400-0250-030-XX	3/16	1/4	.004	0.030	.003
400-0313-030-XX	1/4	5/16	.005	0.030	.003
400-0375-030-XX	5/16	3/8	.005	0.030	.003
400-0438-030-XX	3/8	7/16	.005	0.030	.003
400-0500-030-XX	7/16	1/2	.005	0.030	.003
400-0562-030-XX†	1/2	9/16	.005	0.030	.003
400-0625-030-XX†	9/16	5/8	.005	0.030	.003
400-0688-030-XX†	5/8	11/16	.005	0.030	.003
400-0750-030-XX†	11/16	3/4	.005	0.030	.003
Heavy Wall					
400-0188-062-XX	1/16	3/16	.005	0.062	.003
400-0250-062-XX	1/8	1/4	.005	0.062	.003
400-0313-062-XX	3/16	5/16	.005	0.062	.003
400-0375-062-XX	1/4	3/8	.005	0.062	.003
400-0438-062-XX	5/16	7/16	.005	0.062	.003
400-0500-062-XX	3/8	1/2	.005	0.062	.003
400-0625-062-XX	1/2	5/8	.005	0.062	.003
400-0750-062-XX	5/8	3/4	.005	0.062	.003
400-0875-062-XX†	3/4	7/8	.005	0.062	.003
400-1000-062-XX*	7/8	1	.005	0.062	.003
400-1125-062-XX*	1	1-1/8	.006	0.062	.003
400-1250-062-XX**	1-1/8	1-1/4	.006	0.062	.003
400-1375-062-XX**	1-1/4	1-3/8	.008	0.062	.003
400-1500-062-XX**†	1-3/8	1-1/2	.010	0.062	.003
400-1625-062-XX**†	1-1/2	1-5/8	.012	0.062	.003
400-1750-062-XX†**	1-5/8	1-3/4	.015	0.062	.003
400-2000-062-XX**†	1-7/8	2	.015	0.062	.003
400-2125-062-XX**†	2	2-1/8	.015	0.062	.003
Stock Custom Size					
400-0250-040-XX	.170	1/4	.004	0.040	.003
400-0250-047-XX	.156	1/4	.004	0.047	.003
400-0375-040-XX	.295	3/8	.005	0.040	.003
400-0375-047-XX	.281	3/8	.005	0.047	.003
400-1100-050-XX*	1	1.10	.010	0.050	.003

- \* Straight length or reels
- \*\* Straight lengths only
- † Custom item please consult factory for lead time and minimum order requirements.

Additional sizes up to 4" OD are available as custom extrusions - minimum order requirements may apply. Please contact Altaflo office for details. Stocked in natural color - please consult factory for details on available colors.



# **ALTAFLUOR® 400 PFA**

Due to the nature of applications involving the use of fluoropolymers, we suggest that all customers test product within the conditions specific to their application prior to use.

# **ALTAFLUOR® 400 - PFA TUBING**

PART NUMBER	ID	OD	+/-	WALL	+/-
Metric Sizes					
400-0157-040-XX	.079	.157	.005	0.040	.003
	2mm	4mm		1mm	
400-0197-040-XX†	.118	.197	.005	0.040	.003
	3mm	5mm		1mm	
400-0236-040-XX	.157	.236	.005	0.040	.003
	4mm	6mm		1mm	
400-0276-040-XX†	.197	.276	.005	0.040	.003
	5mm	7mm		1mm	
400-0315-040-XX	.236	.315	.005	0.040	.003
	6mm	8mm		1mm	
400-0354-040-XX†	.276	.354	.005	0.040	.003
	7mm	9mm		1mm	
400-0394-040-XX	.315	.394	.005	0.040	.003
	8mm	10mm		1mm	
400-0433-040-XX†	.354	.433	.005	0.040	.003
	9mm	11mm		1mm	
400-0472-040-XX	.394	.472	.005	0.040	.003
	10mm	12mm		1mm	
400-0512-040-XX†	.433	.512	.005	0.040	.003
	11mm	13mm		1mm	
400-0551-040-XX	.472	.551	.005	0.040	.003
	12mm	14mm		1mm	
400-0630-040-XX	.551	.630	.005	0.040	.003
	14mm	16mm		1mm	
400-0354-059-XX†	.236	.354	.005	0.059	.003
	6mm	9mm		1.5mm	
400-0472-059-XX†	.354	.472	.005	0.059	.003
	9mm	12mm		1.5mm	

- Straight length or reels
- Straight lengths only
- Custom item please consult factory for lead time and minimum order requirements. Additional sizes up to 4" OD are available as custom extrusions - minimum order requirements may apply. Please contact Altaflo office for details. Stocked in natural color please consult factory for details on available colors.

# **ALTAFLUOR® 400 PFA - BEND RADIUS AND WORKING PRESSURE CHART**

PART NUMBER	OD	WALL	ID	BEND RADIUS	WORKING PRESSURE @ 73°F
400-0125-030-XX	0.125	0.030	0.062	1/2"	445
400-0156-030-XX	0.156	0.030	0.094	1/2"	357
400-0188-030-XX	0.188	0.030	0.125	3/4"	296
400-0188-062-XX	0.188	0.062	0.062	1/2"	612
400-0250-030-XX	0.250	0.030	0.188	1"	223
400-0250-040-XX	0.250	0.040	0.170	1"	297
400-0250-047-XX	0.250	0.047	0.156	3/4"	349
400-0250-062-XX	0.250	0.062	0.125	1/2"	460
400-0313-030-XX	0.313	0.030	0.250	1-3/4"	178
400-0313-062-XX	0.313	0.062	0.188	1"	368
400-0375-030-XX	0.375	0.030	0.313	2-1/2"	148
400-0375-062-XX	0.375	0.062	0.250	1"	307
400-0438-030-XX	0.438	0.030	0.235	3-1/2"	127
400-0438-062-XX	0.438	0.062	0.313	2"	263
400-0500-030-XX	0.500	0.030	0.438	6"	111
400-0500-062-XX	0.500	0.062	0.436	2"	230
400-0625-030-XX	0.625	0.002	0.562	6-1/2"	89
400-0625-062-XX	0.625	0.062	0.502	3"	184
400-0023-002-XX	0.750	0.002	0.688	8"	74
400-0750-062-XX	0.750	0.062	0.625	6"	153
400-0750-062-XX	0.750	0.062	0.023	12"	132
				22"	
400-1000-062-XX 400-1125-062-XX	1.000 1.125	0.062	0.875	30"	115
		0.062	1.000		75
400-1250-062-XX	1.250	0.062	1.125	N/A	70
Metric Sizes	457	0.040	070	4 4 /0"	40.4
400-0157-040-XX	.157	0.040	.079	1-1/2"	464
400 0407 040 VVI	4mm	1mm	2mm	4.0/49	000
400-0197-040-XX†	.197	0.040	.118	1-3/4"	380
400 0000 040 VV	5mm	1mm	3mm	0.4/0"	0.10
400-0236-040-XX	.236	0.040	.157	2-1/2"	312
400 0070 040 101	6mm	1mm	4mm	0.1/01	
400-0276-040-XX†	.276	0.040	.197	2-1/2"	274
400 004 = 040 1/1/	7mm	1mm	5mm		
400-0315-040-XX	.315	0.040	.236	2-3/4"	234
400 00=4 040 104	8mm	1mm	6mm		
400-0354-040-XX†	.354	0.040	.276	2-3/4"	210
	9mm	1mm	7mm		
400-0394-040-XX	.394	0.040	.315	2-3/4"	187
	10mm	1mm	8mm		
400-0433-040-XX†	.433	0.040	.354	4"	170
	11mm	1mm	9mm		
400-0472-040-XX	.472	0.040	.394	4"	156
	12mm	1mm	10mm		
400-0512-040-XX†	.512	0.040	.433		
	13mm	1mm	11mm		
400-0551-040-XX	.551	0.040	.472		
	14mm	1mm	12mm		
400-0630-040-XX	.630	0.040	.551		
	16mm	1mm	14mm		
400-0354-059-XX†	.354	0.059	.236	1"	290
	9mm	1.5mm	6mm		
400-0472-059-XX†	.472	0.059	.354	2"	220
	12mm	1.5mm	9mm		



# **ALTAFLUOR®** 400 PFA

Due to the nature of applications involving the use of fluoropolymers, we suggest that all customers test product within the conditions specific to their application prior to use.

#### **ALTAFLUOR® 400 SERIES PFA - PHYSICAL PROPERTIES**

PHYSICAL PROPERTY	ASTM TEST METHOD	UNITS	VALUES
Upper Service Temp.			400° F
Specific Gravity	D 792		2.15
Tensile Strength	D 1708	PSI	4000
Elongation	D 638	%	400
Flex Modulus	D 790	PSI	90,000
MIT Flex Life	D 2176		200,000
Hardness	D 2240	Shore D	57-60

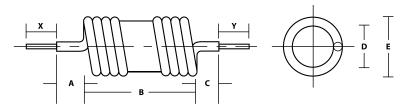
NOTE: The values represented are based on the use of 100% virgin grade high performance - low melt flow FEP resin as used in the production of ALTAFLUOR® 400 Series Tubing. When comparing data it is critical that performance values are listed for the grade of resin used.

# **ALTAFLUOR® 400 PFA - SCHEDULE 40 PIPE**

PART NUMBER	NOMINAL SIZE	ACTUAL OD	WALL	STOCK LENGTH
400-0540-088-0C	1/4"	.540" ± .010	.088"+.020,-0	10 FT
400-0840-109-0C	1/2"	.840" ± .010	.109"+.020,-0	10 FT
400-1050-113-0C	3/4"	1.050" ± .010	.113"+.020,-0	10 FT
400-1315-133-0C	1"	1.315" ± .010	.133"+.020,-0	10 FT
400-1660-140-0C*	1-1/4"	1.660" ± .015	.140"+.020,-0	10 FT
400-1900-145-0C*	1-1/2"	1.900" ± .015	.145"+.020,-0	10 FT
400-2375-154-0C*	2"	2.374" ± .015	.154"+.020,-0	10 FT

<sup>\*</sup>Custom item - please consult factory for lead time and minimum order requirements. Additional sizes and Schedule 80 Pipe available upon request.

# **ALTAFLUOR® 400 PFA - COILED HOSE**



Custom item - see Coiled Hose Order Form for ordering information. Please consult factory for additional details.

# **ALTAFLUOR® 400 PFA - STANDARD CONVOLUTED CONSTRUCTION**

PART NUMBER	NOMINAL OD SIZE	ID MIN	ID MAX	OD MAX	NOMINAL WALL	CONVOLUTIONS PER INCH
40C-0375-020-XX*	3/8	0.251	0.275	0.375	0.020	6
40C-0500-023-XX*	1/2	0.364	0.375	0.500	0.023	6
40C-0625-025-XX*	5/8	0.485	0.500	0.625	0.025	5.5
40C-0750-025-XX*	3/4	0.608	0.625	0.750	0.025	5
40C-0875-025-XX*	7/8	0.730	0.750	0.875	0.025	4
40C-1000-025-XX*	1	0.860	0.875	1.000	0.025	3.5

<sup>\*</sup>Custom item - please consult factory for lead time and minimum order requirements. Please see ALTAFLUOR® 400 Ultra-Flex for stock items.

# **ALTAFLUOR® 400 PFA - ULTRA FLEX CONVOLUTED CONSTRUCTION**

PART NUMBER	NOMINAL OD SIZE	ID MIN	ID MAX	OD MAX	NOMINAL WALL	CONVOLUTIONS PER INCH
40U-0375-020-XX	3/8	0.251	0.275	0.375	0.020	9
40U-0500-023-XX	1/2	0.364	0.375	0.500	0.023	9
40U-0625-025-XX	5/8	0.485	0.500	0.625	0.025	9
40U-0750-025-XX	3/4	0.608	0.625	0.750	0.025	8
40U-1000-025-XX	1	0.860	0.875	1.000	0.025	8



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# **ALTAFLUOR® 450 HP PFA**

ALTAFLUOR® 450 HP PFA (high purity perfluoroalkoxy) is commonly chosen for applications involving extreme chemical resistance combined with high purity requirements. Although HP PFA is available in a variety of resin grades, ALTAFLUOR® 450 HP PFA tubing is made from a high molecular weight, high purity resin that provides excellent chemical resistance, highest purity levels (extractable data available upon request) and smooth surface finish. ALTAFLUOR 450 SERIES HP PFA does not impart taste or odor. ALTAFLUOR® 450 HP PFA tubing is ideal for use with flare or conventional fittings.

#### **ALTAFLUOR® 450 FEATURES**

- Exclusive use of Dyneon 6502UHPZ HP PFA – a Semi F-57 & C-90 approved resin
- 100% Virgin High Performance Grade resin used to resist stress cracking
- Chemically inert to nearly all industrial chemicals & solvents
- · High thermal stability
- Low permeation
- Translucent

# **APPLICATIONS**

- Semiconductor
- · Chemical process
- Heat Exchangers

- Smooth surface finish resulting in less area of particle entrapment
- Moisture absorption nearly zero
- FDA compliant for food contact
- Non-Flammable
- Suitable for use with flare or conventional fittings
- Also available in pipe, coiled hose and convoluted constructions
- · Laboratory applications
- · Flow Monitoring
- Pharmaceutical

#### **SPECIFICATIONS**

**General:** Meets or exceeds the requirements listed in ASTM D 6867-03 **Temperature:** -320  $^{\circ}$ F to 500  $^{\circ}$ F

**Flammability:** Resin is UL 94 V0 rated. HP PFA resists combustion and does not promote flame spread.

FDA: HP PFA is approved for use in food contact applications in compliance with FDA regulation: 21 CFR 177.1550

**SEMI:** Tested and meets requirements of Semi F-57 and C-90. Test results available upon request.

#### **ALTAFLUOR® 450 HP PFA - TUBING**

PART NUMBER	ID	OD	+/-	WALL	+/-
450-0125-030-0C	1/16	1/8	.004	0.030	.003
450-0250-030-0C	3/16	1/4	.004	0.030	.003
450-0250-040-0C	.170	1/4	.004	0.040	.003
450-0250-047-0C	.156	1/4	.004	0.047	.003
450-0250-062-0C	1/8	1/4	.005	0.062	.003
450-0375-062-0C	1/4	3/8	.005	0.062	.003
450-0500-062-0C	3/8	1/2	.005	0.062	.003
450-0750-062-0C	5/8	3/4	.005	0.062	.003
450-1000-062-0C	7/8	1	.005	0.062	.003
450-1250-075-0C	1.100	1.250	.008	0.005	.003
450-1500-093-0C	1.315	1.50	.015	0.093	.010

METRIC SIZES	ID	OD	+/-	WALL	+/-
450-0157-040-0C	.078	.157	.005	0.040	.003
	2mm	4mm	.005	1mm	.003
450-0236-040-0C	.157	.236	.005	0.040	.003
	4mm	6mm	.005	1mm	.003
450-0315-040-0C	.236	.315	.005	0.040	.003
	6mm	8mm	.005	1mm	.003
450-0394-040-0C	.315	.394	.005	0.040	.003
	8mm	10mm	.005	1mm	.003
450-0472-040-0C	.394	.472	.005	0.040	.003
	10mm	12mm	.005	1mm	.003

Additional sizes up to 4" OD available upon request. Please contact Altaflo office for details. Available in natural color only. For pigmented items, see ALTAFLUOR® 400 series.

# **ALTAFLUOR® 450 HP PFA - SCHEDULE 40 PIPE**

PART NUMBER	NOMINAL SIZE	ACTUAL OD	WALL	STOCK LENGTH
450-0540-088-0C	1/4"	.540" ± .010	.088"+.020,-0	10ft
450-0840-109-0C	1/2"	.840" ± .010	.109"+.020,-0	10ft
450-1050-113-0C	3/4"	1.050" ± .015	.113"+.020,-0	10ft
450-1315-133-0C	1"	1.315" ± .015	.133"+.020,-0	10ft
450-1660-140-0C	1-1/4"	1.660" ± .015	.140"+.020,-0	10ft
450-1900-145-0C	1-1/2"	1.900" ± .015	.145"+.020,-0	10ft
450-2375-154-0C	2"	2.375" ± .015	.154"+.0200	10ft

Altaflo maintains inventory of Schedule 40 Pipe in our 450 HP PFA Series. Schedule 40 Pipe is also available as a Custom Order in Altafluor 200, 400 & 480 Series resins.



KYNAR® and KYNAR FLEX® are registered trademarks of Arkema Inc.

# **ALTAFLUOR® 450 HP PFA**

Due to the nature of applications involving the use of fluoropolymers, we suggest that all customers test product within the conditions specific to their application prior to use.

# ALTAFLUOR® 450 HP PFA - BEND RADIUS AND WORKING PRESSURE CHART

PART NUMBER	OD	WALL	ID	BEND RADIUS	WORKING PRESSURE @ 73°F
450-0125-030-0C	0.125	0.030	0.062	1/2"	451
450-0250-030-0C	0.250	0.030	0.188	1"	226
450-0250-040-0C	0.250	0.040	0.170	1"	301
450-0250-047-0C	0.250	0.047	0.157	3/4"	353
450-0250-062-0C	0.250	0.062	0.125	1/2"	466
450-0375-062-0C	0.375	0.062	0.250	1"	311
450-0500-062-0C	0.500	0.062	0.375	2"	233
450-0750-062-0C	0.750	0.062	0.625	6"	155
450-1000-062-0C	1.000	0.062	0.875	22"	117
450-1250-075-0C	1.250	0.075	1.100	25"	75
METRIC SIZES	OD	WALL	ID	BEND RADIUS	WORKING PRESSURE @ 73°F
450-0157-040-0C	0.157	0.040	0.079	1"	468
	4mm	1mm	2mm		
450-0236-040-0C	0.236	0.040	0.157	1-3/4"	313
	6mm	1mm	4mm		
450-0315-040-0C	0.315	0.040	0.236	2-1/2"	235
	8mm	1mm	6mm		
450-0394-040-0C	0.394	0.040	0.315	2-3/4"	188
	10mm	1mm	8mm		
450-0472-040-0C	0.472	0.040	0.394	4"	156
	12mm	1mm	10mm		

The above information is based on tests performed at 73° F and can vary in individual applications based on parameters such as temperature, chemical concentration, pressure, etc. Please consult factory for details. For an estimate on burst pressure at ambient temperature we consider a 3:1 ratio when exposure temperature is 73° F. However Altaflo does not recommend exceeding the suggested Working Pressure listed.

Additional sizes up to 2" are available.

Available in natural color only. For pigmented items, see ALTAFLUOR® 400 series.

# **ALTAFLUOR® 450 SERIES HP PFA - PHYSICAL PROPERTIES**

PHYSICAL PROPERTY	ASTM TEST METHOD	UNITS	VALUES
Upper Service Temp.			500° F
Specific Gravity	D 792		2.15
Tensile Strength	D 1708	PSI	4500
Elongation	D 638	%	400
Flex Modulus	D 790	PSI	90,000
MIT Flex Life	D 2176		500,000
Hardness	D 2240	Shore D	60

The above information is based on tests performed at 73° F and can vary in individual applications based on parameters such as temperature, chemical concentration, pressure, etc. Please consult factory for details. NOTE: The values represented above are based on the use of 100% virgin grade high performance - low melt flow PFA resin as used in the production of ALTAFLUOR® 450 Series Tubing. When comparing data it is critical that performance values are listed for the grade of resin used.



# **ALTAFLUOR® 450 HP PFA**

# **ALTAFLUOR® 450 HP PFA - STANDARD CONVOLUTED CONSTRUCTION**

PART NUMBER	NOMINAL OD SIZE	ID MIN	ID MAX	OD MAX	NOMINAL WALL	CONVOLUTIONS PER INCH
45C-0375-020-0C*	3/8	0.251	0.275	0.375	0.020	6
45C-0500-023-0C*	1/2	0.364	0.375	0.500	0.023	6
45C-0625-025-0C*	5/8	0.485	0.500	0.625	0.025	5.5
45C-0750-025-0C*	3/4	0.608	0.625	0.750	0.025	5
45C-0875-025-0C*	7/8	0.730	0.750	0.875	0.025	4
45C-1000-025-0C*	1	0.860	0.875	1.000	0.025	3.5

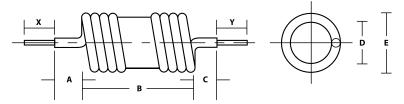
<sup>\*</sup>Custom item - please consult factory for lead time and minimum order requirements. Available in natural color only. For pigmented items, see ALTAFLUOR® 400 series.

# **ALTAFLUOR® 450 HP PFA - ULTRA FLEX CONVOLUTED CONSTRUCTION**

PART NUMBER	NOMINAL OD SIZE	ID MIN	ID MAX	OD MAX	NOMINAL WALL	CONVOLUTIONS PER INCH
45U-0375-020-0C*	3/8	0.251	0.275	0.375	0.020	9
45U-0500-023-0C*	1/2	0.364	0.375	0.500	0.023	9
45U-0625-025-0C*	5/8	0.485	0.500	0.625	0.025	9
45U-0750-025-0C*	3/4	0.608	0.625	0.750	0.025	8
45U-0875-025-0C*	7/8	0.730	0.750	0.875	0.025	8
45U-1000-025-0C*	1	0.860	0.875	1.000	0.025	8

<sup>\*</sup>Custom item - please consult factory for lead time and minimum order requirements. Available in natural color only. For pigmented items, see ALTAFLUOR® 400 series.

# **ALTAFLUOR® 450 HP PFA - COILED HOSE**



Custom item - see Coiled Hose Order Form for ordering information. Please consult factory for additional details.



The CLEAR CHOICE for semiconductor, pharmaceutical, and other critical chemical systems

ALTAFLUOR® DCHP SERIES DUAL CONTAINMENT TUBING provides end users with an integrated fluid flow solution for critical processes where high purity and safety are primary concerns.

The inner tube, produced exclusively from 100% Virgin Dyneon 6502UHPZ HP PFA resin, ensures highest purity levels in critical applications. The outer tube, constructed of 100% Virgin grade FEP not only provides excellent clarity for visual inspection, but offers enhanced protection against product damage or personal injury from possible leaks that may occur during the chemical delivery process. The Tube-in-Tube design does not introduce contaminants during the installation process and the ability to provide ALTAFLUOR® DCHP Dual Containment Tubing in long continuous lengths reduces the need for excess connections thereby reducing the overall system cost.

#### **KEY PROPERTIES**

- Exclusive use of 100% Virgin
   Dyneon 6502UHPZ HP PFA SEMI
   F-57 & C-90 approved resin
- Produced and packaged in a clean room environment
- Ends capped custom dual containment end caps
- Excellent chemical resistance
- · Low permeability

# **CUSTOM APPLICATIONS**

- · Custom laser marking
- Custom packaging: straight lengths, short cut-to-length pieces; long continuous lengths
- Private Labeling

- Extremely low extractable levels: metallic and organic
- Smooth surface finish
- Excellemt mechanical performance
- Laser marked for complete traceability
- Flame resistant fluoropolymers meet UL 94 VO
- Additional sizes and material selections available upon request

#### **ALTAFLUOR® DCHP SERIES DUAL CONTAINMENT**

PART NUMBER	PRIMARY TUBING (DYNEON 6502UHPZ HP PFA)	OUTER TUBING (FEP)	PSI@72F (PRIMARY)	WT/FT (LBS)
DCHP-0250-0500	.156 ID x .250 OD	.375 ID x .500 OD	355	0.108
DCHP-0375-0750	.250 ID x .375 OD	.625 ID x .750 OD	315	0.182
DCHP-0500-0750	.375 ID x .500 OD	.625 ID x .750 OD	235	0.205
DCHP-0750-1000	.625 ID x .750 OD	.875 ID x 1.00 OD	155	0.297
DCHP-1000-1250	.875 ID x 1.00 OD	1.10 ID x 1.250 OD	120	0.430
DCHP-1250-1500	1.10 ID x 1.250 OD	1.250 ID x 1.500 OD	75	0.646

PACKAGING: Coils of 100 FT or less are packaged in heavy gauge heat-sealed double polybags. Longer lengths are supplied on plastic clean-room compatible reels. A Partial Reel charge may apply for reel lengths less than 500 FT.

Note: For Material Certifications see 450 Series HP PFA section.



# ALTAFLUOR® 480 UHP PFA

ALTAFLUOR® 480 UHP PFA (ultra high purity perfluoroalkoxy) is the product of choice for applications involving extreme chemical resistance combined with high purity requirements. Although HP PFA is available in a variety of resin grades, ALTAFLUOR® 480 UHP PFA tubing is made exclusively from a high molecular weight, high purity resin that provides excellent chemical resistance, (even to common fluorosurfactants), highest purity levels, low permeation levels and smoothest surface finish. Altafluor 480 Series UHP PFA does not impart taste or odor. Unlike standard HP PFA tubing products, ALTAFLUOR® 480 Series UHP PFA has superior flex life values comparable to those of PTFE. ALTAFLUOR® 480 UHP PFA tubing is ideal for use with flare or conventional fittings.

#### **ALTAFLUOR® 480 FEATURES**

- · Exclusive use of Daikin AP-231SH UHP PFA Semi -F57 approved resin • FDA compliant for food contact
- 100% virgin grade high performance resins used to resist stress cracking
- · Chemically inert to nearly all industrial chemicals and solvents
- · Highest thermal stability
- · Lowest permeation (even with aggressive chemicals such as HCL)
- Translucent
- · Smoothest surface finish resulting in less area of particle entrapment

- · Moisture absorption nearly zero
- · Non-flammable
- · Suitable for use with flare or conventional fittings
- · Available in coiled hose and convoluted constructions
- · Superior resistance to common fluorosurfactants vs. other PFA and HP PFA
- · Greatest flex life values compared with other PFA and HP PFA materials

# **APPLICATIONS**

- Semiconductor
- · Chemical process
- · Heat exchangers
- Laboratory applications
- Flow monitoring
- Pharmaceutical

# **SPECIFICATIONS**

General: Meets or exceeds the requirements listed in ASTM D 6867-03 Temperature: -320 °F to 500 °F

Flammability: UL 94 VO rated. UHP PFA resists combustion and does not promote flame spread

FDA: UHP PFA is approved for use in food contact applications in compliance with FDA regulation: 21 CFR 177.1550

USP CLASS VI: ALTAFLUOR® meets the requirements of USP Class VI NSF: ALTAFLUOR® 480 UHP PFA tubing is certified to NSF 51, NSF 61 and NSF 372

SEMI: Tested and meets requirements of Semi F-57 and C-90. Test results available upon request.



This ALTAFLUOR® 480 UHP PFA has been tested and certified by WQA against NSF/ANSI 51, NSF/ANSI 61 to Commercial Hot (180° F/82° C), and NSF/ANSI 372 for lead free compliance.

#### **ALTAFLUOR® 480 UHP PFA - TUBING**

PART NUMBER	ID	OD	+/-	WALL	+/-
480-0125-030-0C	1/16	1/8	.004	0.030	.003
480-0250-030-0C	3/16	1/4	.004	0.030	.003
480-0250-040-0C	.170	1/4	.004	0.040	.003
400 0200 040 00	.170	17-4	.004	0.040	.000
480-0250-047-0C	.156	1/4	.004	0.047	.003
480-0250-062-0C	1/8	1/4	.005	0.062	.003
480-0375-062-0C	1/4	3/8	.005	0.062	.003
480-0500-062-0C	3/8	1/2	.005	0.062	.003
480-0750-062-0C	5/8	3/4	.005	0.062	.003
480-1000-062-0C	7/8	1	.005	0.062	.003
480-1250-075-0C	1.100	1.250	.008	0.005	.003
480-1500-093-0C	1.315	1.50	.015	0.093	.010
METRIC SIZES	ID	OD	+/-	WALL	+/-
480-0157-040-0C	.078	.157	.005	0.040	.003
	2mm	4mm	.005	1mm	.003
480-0236-040-0C	.157	.236	.005	0.040	.003
	4mm	6mm	.005	1mm	.003
480-0315-040-0C	.236	.315	.005	0.040	.003
	6mm	8mm	.005	1mm	.003
480-0394-040-0C	.315	.394	.005	0.040	.003
	8mm	10mm	.005	1mm	.003
480-0472-040-0C	.394	.472	.005	0.040	.003
	10mm	12mm	.005	1mm	.003

Additional sizes up to 4" OD available upon request. Please contact Altaflo office for details. Available in natural color only. For pigmented items, see ALTAFLUOR® 400 series.

Tested and meets requirements of Semi F-57 and Semi F-90. Test results available upon request.

# **ALTAFLUOR® 480 UHP PFA - SCHEDULE 40 PIPE**

PART NUMBER	NOMINAL SIZE	ACTUAL SIZE	WALL
480-0540-088-0C*	1/4"	.540" ± .010	.088"±.020,-0
480-0840-109-0C*	1/2"	.840" ± .010	.109"±.020,-0
480-1050-113-0C*	3/4"	1.050" ± .010	.113"±.020,-0
480-1315-133-0C*	1"	1.315" ± .010	.133"±.020,-0
480-1660-140-0C*	1-1/4"	1.660" ± .015	.140"±.020,-0
480-1900-145-0C*	1-1/2"	1.900" ± .015	.145"±.020,-0
480-2375-154-0C*	2"	2.375" ± .015	.154"±.020,-0

ALTAFLUOR 480 SERIES Schedule 40 Pipe is considered custom and produced to order. For stock pipe please see ALTAFLUOR 450 SERIES Schedule 40 Pipe.



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ALTAFLUOR® is a registered trademark of Altaflo LLC **TEFLON™** is a brand of Chemours **NEOFLON®** is a registered trademark of Daikin KYNAR® and KYNAR FLEX® are registered trademarks of Arkema Inc.

# **ALTAFLUOR® 480 UHP PFA**

Due to the nature of applications involving the use of fluoropolymers, we suggest that all customers test product within the conditions specific to their application prior to use.

# **ALTAFLUOR® 480 UHP PFA - BEND RADIUS AND WORKING PRESSURE CHART**

PART NUMBER	OD	WALL	ID	BEND RADIUS	WORKING PRESSURE @ 73°F
480-0125-030-0C	0.125	0.030	0.062	1/2"	451
480-0250-030-0C	0.250	0.030	0.188	1"	226
480-0250-040-0C	0.250	0.040	0.170	1"	301
480-0250-047-0C	0.250	0.047	0.157	3/4"	353
480-0250-062-0C	0.250	0.062	0.125	1/2"	466
480-0375-062-0C	0.375	0.062	0.250	1"	311
480-0500-062-0C	0.500	0.062	0.375	2"	233
480-0750-062-0C	0.750	0.062	0.625	6"	155
480-1000-062-0C	1.000	0.062	0.875	22"	117
480-1250-075-0C	1.250	0.075	1.100	25"	75
METRIC SIZES	OD	WALL	ID	BEND RADIUS	WORKING PRESSURE @ 73°F
480-0236-040-0C	0.236	0.040	0.157	1-3/4"	313
	6mm	1mm	4mm		
480-0315-040-0C	0.315	0.040	0.236	2-1/2"	235
	8mm	1mm	6mm		
480-0394-040-0C	0.394	0.040	0.315	2-3/4"	188
	10mm	1mm	8mm		

The above information is based on tests performed at 73° F and can vary in individual applications based on parameters such as temperature, chemical concentration, pressure, etc. Please consult factory for details. For an estimate on burst pressure at ambient temperature we consider a 3:1 ratio when exposure temperature is 73° F. However Altaflo does not recommend exceeding the suggested Working Pressure listed.

Additional sizes up to 2" are available.

Available in natural color only. For pigmented items, see ALTAFLUOR® 400 series.

### **ALTAFLUOR® 480 SERIES UHP PFA - PHYSICAL PROPERTIES**

PHYSICAL PROPERTY	ASTM TEST METHOD	UNITS	VALUES
Upper Service Temp.			500° F
Specific Gravity	D 792		2.15
Tensile Strength	D 1708	PSI	4500
Elongation	D 638	%	400
Flex Modulus	D 790	PSI	90,000
MIT Flex Life	D 2176		1,750,000
Hardness	D 2240	Shore D	60

The above information is based on tests performed at 73° F and can vary in individual applications based on parameters such as temperature, chemical concentration, pressure, etc. Please consult factory for details.

NOTE: The values represented above are based on the use of 100% virgin grade high performance - low melt flow PFA resin as used in the production of ALTAFLUOR® 480 Series Tubing. When comparing data it is critical that performance values are listed for the grade of resin used.



# **ALTAFLUOR® 480 UHP PFA**

# **ALTAFLUOR® 480 UHP PFA - STANDARD CONVOLUTED CONSTRUCTION**

PART NUMBER	NOMINAL OD SIZE	ID MIN	ID MAX	OD MAX	NOMINAL WALL	CONVOLUTIONS PER INCH
48C-0375-020-0C*	3/8	0.251	0.275	0.375	0.020	6
48C-0500-023-0C*	1/2	0.364	0.375	0.500	0.023	6
48C-0625-025-0C*	5/8	0.485	0.500	0.625	0.025	5.5
48C-0750-025-0C*	3/4	0.608	0.625	0.750	0.025	5
48C-0875-025-0C*	7/8	0.730	0.750	0.875	0.025	4
48C-1000-025-0C*	1	0.860	0.875	1.000	0.025	3.5

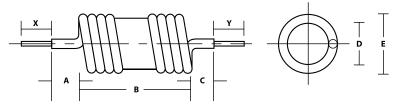
<sup>\*</sup>Custom item - please consult factory for lead time and minimum order requirements. Available in natural color only. For pigmented items, see ALTAFLUOR® 400 series.

# **ALTAFLUOR® 480 UHP PFA - ULTRA FLEX CONVOLUTED CONSTRUCTION**

PART NUMBER	NOMINAL OD SIZE	ID MIN	ID MAX	OD MAX	NOMINAL WALL	CONVOLUTIONS PER INCH
48U-0375-020-0C*	3/8	0.251	0.275	0.375	0.020	9
48U-0500-023-0C*	1/2	0.364	0.375	0.500	0.023	9
48U-0625-025-0C*	5/8	0.485	0.500	0.625	0.025	9
48U-0750-025-0C*	3/4	0.608	0.625	0.750	0.025	8
48U-0875-025-0C*	7/8	0.730	0.750	0.875	0.025	8
48U-1000-025-0C*	1	0.860	0.875	1.000	0.025	8

<sup>\*</sup>Custom item - please consult factory for lead time and minimum order requirements. Available in natural color only. For pigmented items, see ALTAFLUOR® 400 series.

# **ALTAFLUOR® 480 UHP PFA - COILED HOSE**



Custom item - see Coiled Hose Order Form for ordering information. Please consult factory for additional details.



The CLEAR CHOICE for semiconductor, pharmaceutical, and other critical chemical systems

ALTAFLUOR® DC SERIES DUAL CONTAINMENT TUBING provides end users with an integrated fluid flow solution for critical processes where high purity and safety are primary concerns.

The inner tube, produced exclusively from 100% Virgin Daikin AP231SH UHP PFA resin, ensures the greatest overall performance in critical and aggressive applications. The outer tube, constructed of 100% Virgin grade FEP not only provides excellent clarity for visual inspection, but offers enhanced protection against product damage or personal injury from possible leaks that may occur during the chemical delivery process. The Tube-in-Tube design does not introduce contaminants during the installation process and the ability to provide ALTAFLUOR® Dual Containment Tubing in long continuous lengths reduces the need for excess connections thereby reducing the overall system cost.

#### **KEY PROPERTIES**

- Exclusive use of Daikin AP-231SH UHP PFA Semi F-57 and C-90 approved resin
- Produced and packaged in a clean room environment
- Ends capped custom dual containment end caps
- Excellent chemical resistance

   (even with common
   Fluorosurfactants known to
   attack lower PFA grades)
- · Low permeability

#### **CUSTOM APPLICATIONS**

- · Custom laser marking
- Custom packaging: straight lengths, short cut-to-length parts

- Extremely low extractable levels: metallic and organic
- · Extremely smooth surface finish
- Highest mechanical performance vs other PFA and HP PFA tubing products
- Flex life comparable with PTFE
- Laser marked for complete traceability
- Flame resistant fluoropolymers meet UL 94 VO
- · Private Labeling
- Additional sizes and material selections available upon request

#### **ALTAFLUOR® 480 SERIES DUAL CONTAINMENT TUBING**

PART NUMBER	PRIMARY TUBING	OUTER TUBING	PSI@72F (PRIMARY)	WT/FT (LBS)
DC-0250-0500-0C	5/32 ID x 1/4 OD	3/8 ID x 1/2 OD	355	.11
DC-0375-0750-0C	1/4 ID x 3/8 OD	5/8 ID x 3/4 OD	315	.18
DC-0500-0750-0C	3/8 ID x 1/2 OD	5/8 ID x 3/4 OD	235	.21
DC-0750-1000-0C	5/8 ID x 3/4 OD	7/8 ID x 1 OD	155	.30
DC-1000-1250-0C	7/8 ID x 1 OD	1.10 ID x 1.250 OD	120	.44
DC-1250-1500-0C	1.10 ID x 1.250 OD	1.315 ID x 1.500 OD	75	.646

PACKAGING: Coils of 100 FT or less are packaged in heavy gauge heat-sealed double polybags. Longer lengths are supplied on plastic clean-room compatible reels. A Partial Reel charge may apply for reel lengths less than 500 FT.

Note: For Material Certifications please see ALTAFLUOR® 480 Series UHP PFA section.



A: 23 Wilson Drive, Sparta, NJ 07871

# **ALTAFLUOR® 500 PVDF**

PVDF (Polyvinylidene Fluoride) is an abrasion resistant fluoropolymer suitable for use in applications requiring chemical resistance with low permeability. ALTAFLUOR® 500 PVDF is the most abrasion and temperature resistant of the PVDF products offered. ALTAFLUOR® 500 provides excellent abrasion resistance and mechanical strength in use with many chemicals and solvents. With its extremely low extractable levels, ALTAFLUOR® 500 is excellent for use in ultra pure water systems. ALTAFLUOR® 500 is suitable for use with conventional fittings but is not recommended for use with flare fittings.

#### **ALTAFLUOR® 500 FEATURES**

- 100% virgin grade KYNAR® PVDF
- · Good chemical resistance
- · Excellent abrasion resistance
- UV resistant
- Low permeability
- FDA Compliant

#### **APPLICATIONS**

- · Chemical process
- · Water process systems
- Semiconductor
- Aquarium

# **SPECIFICATIONS**

 $\textbf{General:} \ \text{Resins meet or exceed requirements listed in ASTM D 3222}$ 

Temperature: -20° F to 250° F

Flammability: UL 94-VO rated KYNAR® PVDF resists combustion and does not promote flame spread

**FDA:** KYNAR® PVDF is approved for use in food contact applications in compliance with FDA regulation 21 CFR 177.1500

NSF: ALTAFLUOR® 500 PVDF tubing is certified to NSF 51, NSF 61 and NSF 372



This ALTAFLUOR® 480 UHP PFA has been tested and certified by WQA against NSF/ANSI 51, NSF/ANSI 61 to Commercial Hot (180° F/82° C), and NSF/ANSI 372 for lead free compliance.

# **ALTAFLUOR® 500 PVDF - TUBING**

P	ART NUMBER	ID	OD	+/-	WALL	+/-

ALTAFLUOR 500® Series PVDF is produced using KYNAR 740 Homopolymer PVDF Resin. Tubing produced using this resin is considered custom and minimum order requirements may apply. For stock PVDF tubing please see our ALTAFLUOR 550® Series KYNAR FLEX PVDF.

#### **ALTAFLUOR® 500 SERIES PVDF - PHYSICAL PROPERTIES**

PHYSICAL PROPERTY	ASTM TEST METHOD	UNITS	VALUES
Upper Service Temp			250° F
Specific Gravity	D 792		1.77-1.79
Tensile Strength	D 1708	PSI	5000-7000
Elongation	D 638	%	50-200
Flex Modulus	D 790	PSI	240,000-300,000
Hardness	D 2240	Shore D	76-80

The above information is based on tests performed at 73° F and can vary in individual applications based on parameters such as temperature, chemical concentration, pressure, etc. Please consult factory for details. For an estimate on burst pressure at ambient temperature we consider a 3:1 ratio when exposure temperature is 73° F. However Altaflo does not recommend exceeding the suggested Working Pressure listed.

# ALTAFLUOR® 550 PVDF FLEX

PVDF FLEX (polyvinylidene fluoride - commonly known by the trade name KYNAR FLEX®) is a more flexible version of PVDF. ALTAFLUOR® 550 Tubing is resistant to many commonly used industrial fluids and gases, including ozone, and does not support the growth of fungi. For this reason ALTAFLUOR® 550 tubing is preferred for water disinfecting processes involving ozone such as aquarium, spa, pool and agriculture. Additionally, it is ideal for applications with exposure to less aggressive chemicals and lower temperature exposure (over FEP or PFA) or those requiring low extractable levels. ALTAFLUOR® 550 is available in many standard sizes available to ship from stock. Custom sizes are available upon request.\* ALTAFLUOR® 550 tubing is compatible with most standard fittings (not suitable for use with flare fittings).

# **ALTAFLUOR® 550 FEATURES**

- · 100% virgin grade KYNAR FLEX® PVDF
- · Chemically resistant to many industrial chemicals and solvents including acids, chlorinated chemicals, brominated chemicals, alcohols, and hydrocarbons.
- · Low smoke and flame properties
- · Resistant to bacteria and fungal growth

- · Good abrasion resistance
- · Low permeability
- Excellent creep resistance
- · Excellent thermal stability
- · Better flexibility (over ALTAFLUOR® 500)
- UV resistant
- · Nuclear radiation resistant
- FDA compliant

#### **APPLICATIONS**

- Metal preparation
- Food and beverage
- · Petrochemical processing
- · High purity semiconductor
- Water purification
- · Chemical process
- Ultra-pure water process systems
- · Pulp and paper
- Aquarium
- · Pool and spa

# **SPECIFICATIONS**

General: Resin meets or exceeds requirements listed in ASTM D 3222

Temperature: -20° F to 212° F

Flammability: UL 94-VO rated KYNAR FLEX® PVDF resists combustion and does not promote flame spread

FDA: KYNAR FLEX® PVDF is approved for use in food contact applications in compliance with FDA regulation 21 CFR 177.2600

NSF: ALTAFLUOR® 550 PVDF FLEX tubing is certified to NSF 51, NSF 61 and NSF 372



This ALTAFLUOR® 550 PVDF FLEX has been tested and certified by WQA against NSF/ANSI 51, NSF/ANSI 61 to Commercial Hot (180° F/82° C), and NSF/ANSI 372 for lead free compliance.

# **ALTAFLUOR® 550 PVDF FLEX - TUBING**

PART NUMBER	ID	OD OD	+/-	WALL	+/-
550-0125-030-XX	1/16	1/8	.004	0.030	.003
550-0188-030-XX	1/8	3/16	.004	0.030	.003
550-0250-030-XX	3/16	1/4	.004	0.030	.003
550-0313-030-XX	1/4	5/16	.005	0.030	.003
550-0375-030-XX	5/16	3/8	.005	0.030	.003
550-0250-040-XX	0.170	1/4	.005	0.040	.003
550-0250-047-XX	5/32	1/4	.005	0.047	.003
550-0250-062-XX	1/8	1/4	.005	0.062	.003
550-0375-062-XX	1/4	3/8	.005	0.062	.003
550-0500-062-XX	3/8	1/2	.005	0.062	.003
550-0625-062-XX	1/2	5/8	.006	0.062	.003
550-0750-062-XX	5/8	3/4	.006	0.062	.003
550-1000-062-XX	7/8	1	.006	0.062	.003
METRIC SIZES	ID	OD	+/-	WALL	+/-
550-0157-040-XX	2mm	4mm	.005	1mm	.003
	0.079	0.157	.005	0.040	.003
550-0236-040-XX	4mm	6mm	.005	1mm	.003
	0.157	0.236	.005	0.040	.003
550-0315-040-XX	6mm	8mm	.005	1mm	.003
	0.236	.315	.005	0.040	.003
550-0394-040-XX	8mm	10mm	.005	1mm	.003
	0.315	0.394	.005	0.040	.003
550-0472-040-XX	10mm	12mm	.005	1mm	.003
	0.394	0.472	.005	0.040	.003

Additional sizes available - please consult factory for details.

Stocked in natural color - please consult factory for details on available colors.



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# **ALTAFLUOR® 550 PVDF FLEX**

Due to the nature of applications involving the use of fluoropolymers, we suggest that all customers test product within the conditions specific to their application prior to use.

# **ALTAFLUOR® 550 PVDF FLEX - BEND RADIUS AND WORKING PRESSURE CHART**

PART NUMBER	OD	WALL	ID	BEND RADIUS	WORKING PRESSURE @ 72°F
550-0125-030-0C	0.125	0.030	0.062	1/2"	416
550-0157-030-0C	0.156	0.030	0.094	3/4"	334
550-0188-030-0C	0.188	0.030	0.125	3/4"	277
550-0250-030-0C	0.250	0.030	0.188	1"	208
550-0313-030-0C	0.313	0.030	0.250	1-3/4"	166
550-0375-030-0C	0.375	0.030	0.312	2-1/2"	138
550-0438-030-0C	0.438	0.030	0.375	3-1/2"	118
550-0500-030-0C	0.500	0.030	0.437	6"	104
550-0562-030-0C	0.563	0.030	0.500	6-1/2"	93
550-0625-030-0C	0.625	0.030	0.562	6-1/2"	83
550-0688-030-0C	0.688	0.030	0.625	8"	75
550-0750-030-0C	0.750	0.030	0.687	8"	70
550-0188-062-0C	0.188	0.062	0.062	1/2"	572
550-0250-062-0C	0.250	0.062	0.125	1/2"	430
550-0313-062-0C	0.313	0.062	0.188	1"	343
550-0375-062-0C	0.375	0.062	0.250	1"	286
550-0438-062-0C	0.438	0.062	0.313	2"	246
550-0500-062-0C	0.500	0.062	0.375	2"	215
550-0625-062-0C	0.625	0.062	0.500	3"	172
550-0750-062-0C	0.750	0.062	0.625	6"	143
550-0875-062-0C	0.875	0.062	0.750	12"	123
550-1000-062-0C	1.000	0.062	0.875	22"	107
550-0250-040-0C	0.250	0.040	0.170	1"	278
550-0250-047-0C	0.250	0.047	0.156	3/4"	326
METRIC SIZES	OD OD	WALL	ID	BEND RADIUS	WORKING PRESSURE @ 72°F
550-0157-040-0C	4mm	1mm	2mm	1-1/2"	434
550-0236-040-0C	6mm	1mm	4mm	2-1/2"	289
550-0315-040-0C	8mm	1mm	6mm	2-3/4"	217
550-0394-040-0C	10mm	1mm	8mm	2-3/4"	174
550-0472-040-0C	12mm	1mm	10mm	4"	145

The above information is based on tests performed at 73° F and can vary in individual applications based on parameters such as temperature, chemical concentration, pressure, etc. Please consult factory for details. For an estimate on burst pressure at ambient temperature we consider a 3:1 ratio when exposure temperature is 73° F. However Altaflo does not recommend exceeding the suggested Working Pressure listed. Additional sizes available - please consult factory for details.

Stocked in natural color - please consult factory for details on available colors.

# ALTAFLUOR® 550 SERIES PVDF - PHYSICAL PROPERTIES

PHYSICAL PROPERTY	ASTM TEST METHOD	UNITS	VALUES
Upper Service Temp			212° F
Specific Gravity	D 792		1.78
Tensile Strength	D 1708	PSI	3500
Elongation	D 638	%	200-500
Flex Modulus	D 790	PSI	40,000-60,000
Hardness	D 2240	Shore D	57-62

The above information is based on tests performed at 73° F and can vary in individual applications based on parameters such as temperature, chemical concentration, pressure, etc. Please consult factory for details. For an estimate on burst pressure at ambient temperature we consider a 3:1 ratio when exposure temperature is 73° F. However Altaflo does not recommend exceeding the suggested Working Pressure listed.



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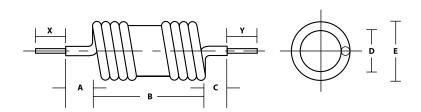
NEOFLON® is a registered trademark of Daikin

KYNAR® and KYNAR FLEX® are registered trademarks of Arkema Inc.

ALTAFLUOR® is a registered trademark of Altaflo LLC

# **COILED HOSE ORDER FORM**

All ALTAFLO products are available in coiled configurations. We will manufacture to your specifications. Please use this worksheet for ordering. You can also contact our sales department to discuss specific details of your application.



COIL TUBING			COIL DIMENSIONS	INN	ER TUBING		COIL CONFIGURATION
OD			A	Con	nplete this section only if an inner	r tube is	If the coil configuration shown above is not
1/4"	3/8"		LEFT TAIL		uired.		suitable for your purposes, please submit a
1/2"	3/4"			OD			custom design.
		(specify)	В			_	USE SHOWN CONFIGURATION
WALL		(0000)	RETRACTED LENGTH			(specify)	CUSTOM DESIGN SUBMITTED
.030"	.062"		RETRACTED LENGTH	WAI	 LL		
.040"	.002						DRAWING NUMBER:
.040		, ,,,	C			(specify)	
		(specify)	RIGHT TAIL		FEDIAL	(Specify)	
MATERIAL					TERIAL		REVISION:
PTFE	FEP		SPECIFY ONE DIMENSION	_	PTFE	1	
PFA	HP-PFA		D - COIL ID =			(specify)	
UHP-PFA	PVDF FLE	X		COL	.0R		
COLOR			E COIL OD	1	NATURAL		
NATURAL			E - COIL OD =			(specify)	
		(specify)		тот	AL LENGTH OF TUBE USED	]	
TOTAL LENGTH					As required		
AS REQUIRED				,	10 roquirou	(anacifu)	
		(specify)				(specify)	
		(Specify)		Х			
				EXT	ENSION OUT OF LEFT TAIL		
				Υ			
				EXT	ENSION OUT OF RIGHT TAIL		
QUANTITY:							
Company:				Not	es:		
Name:							
Email:							
Phone:							
Cell:							
Fax:							



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# **ALTAFLO MATERIAL SELECTION CHART**

	ASTM TEST	100 (PTFE)	200 (FEP)	2E0 (FEP)	350 (THV)	400 (PFA)	480 (UHP PFA)	500 (PVDF)	550 (PVDF FLEX)	700 (ETFE)
UPPER SERVICE TEMP. °F		500° F*	400° F	400° F	180° F	500° F	500° F	250° F	212° F	300° F
SPECIFIC GRAVITY	D 792	2.15	2.15	2.12-2.17	1.95	2.15	2.15	1.77-1.79	1.78	1.74
TENSILE STRENGTH PSI	D 1708	2500-3000	4000	3500	2900	4200	4500	5000-7000	3500	3100-6800
ELONGATION %	D 638	200-400	400	300-400	600	400	400	50-200	200-500	420-450
FLEX MODULUS PSI	D 790	27,000	90,000	90,000	12,000	90,000	90,000	240,000-300,00	40,000-60,000	128,000-171,000
MIT FLEX LIFE	D 2176	1,000,000+	200,000	5000	N/A	500,000+	1,750,000	N/A	N/A	N/A
HARDNESS - SHORE D	D 2240	60	57-60	57-60	44	60	60	76-80	57-62	75

The above information is based on tests performed at 73° F and can vary in individual applications based on parameters such as temperature, chemical concentration, pressure, etc. Please consult factory for details.
\*ALTAFLUOR 100 ® SERIES PTFE Short Term Upper Service Temp: 550° F.



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