

HAMILTON 

# TUBINGS & FITTINGS

Precision Liquid Handling Solutions



# Choose your own Tubing and Fittings

# ASSEMBLIES

To build your own assemblies, Hamilton offers a diverse line of inert fittings and connectors made from CTFE and PEEK. Hamilton fittings are compatible with any fluidic component with flat bottom-sealing 1/4"-28 UNF and M6 ports as well as products like our luer, luer lock and removable needle syringes.



Hamilton offers a full range of chemically inert tubing assemblies for specific fluid applications. Standard or customer specified gauges, lengths, hub assemblies, and fittings are available.

## PORT

1/4"-28 UNF Thread



M6 Thread



## FITTING

Colored PEEK Fittings and Tubing Assemblies\*



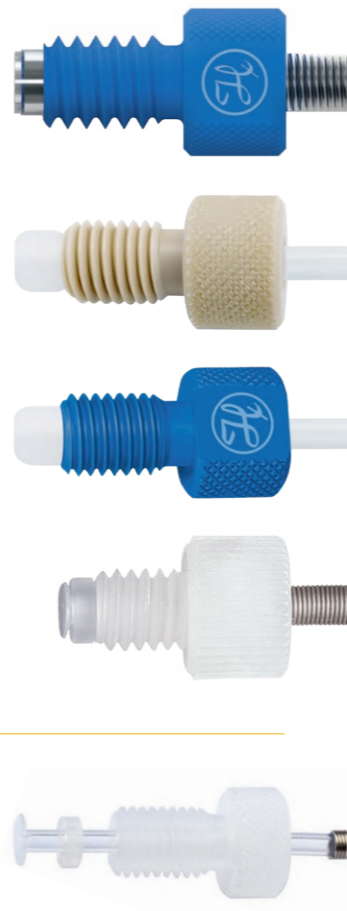
Flangeless Fitting Kits

Colored Flangeless Fitting Kits\*

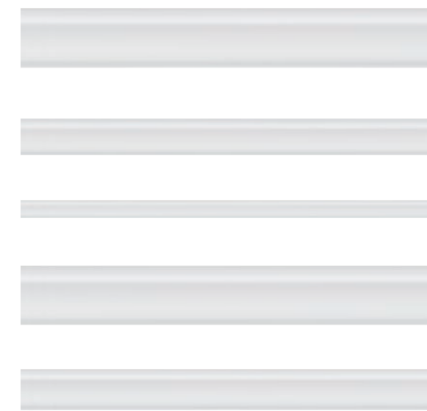


Tubing Assemblies\*\*

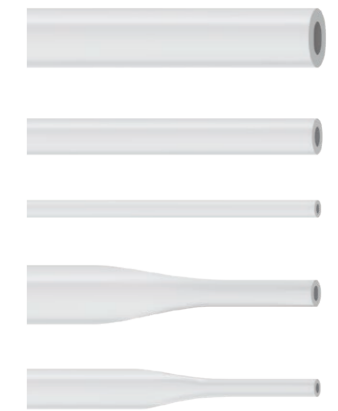
M6 Tubing Assemblies\*\*



## TUBING



## END






Blunt  
Tapered

- Tubing Material FEP and PTFE
- Cut to desired length up to 5 m
- Choose from standard 7 (4.60x3.84mm) - 30 (0.75x.035mm) gauge tubing options

\* Colored fittings available for easy identification


\*\* GA12 and GA18 tubing assemblies are available with a support spring which protects the tubing from kinking at the interface between the tubing and the fitting. All assemblies are made of FEP or PTFE tubing and Kel-F (PCTFE) threaded fittings (unless otherwise specified). The flanged tubing assemblies provide the perfect seal including minimized dead volume for 1/4"-28 UNF or M6 flat bottom valve ports.

# SINGLE HUB TUBING ASSEMBLIES

Description		Fitting Material	Tubing Material	Length [mm]	Gauge (ODxID [mm])	Item number	Fitting Type	Fitting Color			
 1/4"-28 UNF colored PEEK	Tapered End	1x1/4"-28 UNF TUB FEP Red GA12/1372mm TAP	PEEK	FEP	1372	GA12 (2.85x2.00)	10106149	●			
		1x1/4"-28 UNF TUB FEP Blue GA18/1372mm TAP	PEEK	FEP	1372	GA18 (2.00x1.00)	10106147	●			
		1x1/4"-28 UNF TUB **X**X**	PEEK	PTFE / FEP	100 - 5000	GA12 - GA20 <sup>1</sup>	10106177 <sup>3/4</sup>	● ● ● ○ ● ●			
	Blunt End	1x1/4"-28 UNF TUB FEP Red GA12/1219mm Blunt	PEEK	FEP	1219	GA12 (2.85x2.00)	10106148	●			
		1x1/4"-28 UNF TUB FEP Blue GA18/1219mm Blunt	PEEK	FEP	1219	GA18 (2.00x1.00)	10106145	●			
		1x1/4"-28 UNF TUB FEP Red GA12/600mm Blunt	PEEK	FEP	600	GA12 (2.85x2.00)	10155176	●			
		1x1/4"-28 UNF TUB FEP Blue GA18/600mm Blunt	PEEK	FEP	600	GA18 (2.00x1.00)	10155175	●			
		1x1/4"-28 UNF TUB **X**X**	PEEK	PTFE / FEP	100 - 5000	GA11 - GA20 <sup>1</sup>	10106177 <sup>3/4</sup>	● ● ● ○ ● ●			
	 1/4"-28 UNF	Tapered End	1x1/4"-28 UNF TUB FEP GA12/1372mm TAP	PCTFE	FEP	1372	GA12 (2.85x2.00)	240133	White Translucent		
			1x1/4"-28 UNF TUB FEP GA18/1372mm TAP	PCTFE	FEP	1372	GA18 (2.00x1.00)	240134			
1x1/4"-28 UNF TUB FEP GA12/**mm TAP			PCTFE	FEP	100 - 5000	GA12 (2.85x2.00)	1171-02				
1x1/4"-28 UNF TUB FEP GA18/**mm TAP			PCTFE	FEP	100 - 5000	GA18 (2.00x1.00)	1173-02				
1x1/4"-28 UNF TUB **X**X**			PCTFE	PTFE / FEP	100 - 5000	GA12 - GA20 <sup>1</sup>	240084 <sup>2/4</sup>				
Blunt End		1x1/4"-28 UNF TUB FEP GA12/1219mm Blunt	PCTFE	FEP	1219	GA12 (2.85x2.00)	61614-01				
		1x1/4"-28 UNF TUB FEP GA18/1219mm Blunt	PCTFE	FEP	1219	GA18 (2.00x1.00)	61615-01				
		1x1/4"-28 UNF TUB FEP GA22/600mm Blunt	PCTFE	FEP	600	GA22 (1.88x0.71)	88986 <sup>2</sup>	HV			
		1x1/4"-28 UNF TUB FEP GA18/600mm Blunt	PCTFE	FEP	600	GA18 (2.00x1.00)	88987	HV			
		1x1/4"-28 UNF TUB FEP GA12/600mm Blunt	PCTFE	FEP	600	GA12 (2.85x2.00)	88988	HV			
		1x1/4"-28 UNF TUB FEP **mm Blunt	PCTFE	FEP	100 - 5000	GA12 (2.85x2.00)	1172-02 <sup>6</sup>				
		1x1/4"-28 UNF TUB FEP **mm Blunt	PCTFE	FEP	100 - 5000	GA18 (2.00x1.00)	1174-02 <sup>6</sup>				
		1x1/4"-28 UNF TUB **X**X**	PCTFE	PTFE / FEP	100 - 5000	GA11 - GA20 <sup>1</sup>	240084 <sup>2/4</sup>				
		 M6	Tapered End	1xM6 TUB FEP GA12/900mm TAP	PCTFE	FEP	900	GA12 (2.85x2.00)		240360 <sup>5</sup>	White Translucent
				1xM6 TUB FEP GA18/900mm TAP	PCTFE	FEP	900	GA18 (2.00x1.00)		240130 <sup>5</sup>	
1xM6 TUB **X**X**	PCTFE			PTFE / FEP	100 - 5000	GA12 - GA20 <sup>1</sup>	240082 <sup>2/4</sup>				
Blunt End	1xM6 TUB FEP GA12/650mm Blunt		PCTFE	FEP	650	GA12 (2.85x2.00)	240000 <sup>5</sup>				
	1xM6 TUB FEP GA18/650mm Blunt		PCTFE	FEP	650	GA18 (2.00x1.00)	240010 <sup>5</sup>				
	1xM6 TUB FEP GA12/900mm Blunt		PCTFE	FEP	900	GA22 (1.88x0.71)	240320 <sup>2</sup>				
	1xM6 TUB FEP GA18/900mm Blunt		PCTFE	FEP	900	GA18 (2.00x1.00)	240310				
	1xM6 TUB FEP GA12/1300mm Blunt		PCTFE	FEP	1300	GA12 (2.85x2.00)	240260				
	1xM6 TUB FEP GA13s/500mm Blunt		PCTFE	FEP	500	GA13s (2.50x1.50)	240440 <sup>2</sup>				
	1xM6 TUB PTFE GA22/500mm Blunt		PCTFE	PTFE	500	GA22 (1.88x0.71)	240710 <sup>2</sup>				
1xM6 TUB **X**X**	PCTFE	PTFE / FEP	100 - 5000	GA11 - GA20 <sup>1</sup>	240082 <sup>2/4</sup>						




HV - Nut Length 0.47" (11.94mm), IS - Nut Length 0.60" (15.24mm), PEEK Fittings - Nut Length 0.65" (16.5mm)




<sup>1</sup> OD and ID size available at page 8  
<sup>2</sup> Support spring available only for GA12 & GA18  
<sup>3</sup> Support spring available only for GA12 Red & GA18 Blue  
<sup>4</sup> \*\*X\*\*X\*\*: specify tubing material, gauge, length, and whether blunt or tapered (available only for range: GA12 - GA20) and/or coiled. Maximum length: 5 meters  
<sup>5</sup> With strain relief  
<sup>6</sup> \*\*: specify tubing length. Maximum length: 5 meters

Description		Fitting Material	Tubing Material	Length [mm]	Gauge (ODxID [mm])	Item number	Fitting Color
 Female Luer	Blunt End	1xLUER F TUB PTFE GA30/300	PCTFE	PTFE	300	GA30 (0.75x0.35)	90630
		1xLUER F TUB PTFE GA30/**	PCTFE	PTFE	100 - 5000	GA30 (0.75x0.35)	90680 <sup>6</sup>
		1xLUER F TUB PTFE GA28/300	PCTFE	PTFE	300	GA28 (0.86x0.40)	90628
		1xLUER F TUB PTFE GA28/**	PCTFE	PTFE	100 - 5000	GA28 (0.86x0.40)	90678 <sup>6</sup>
		1xLUER F TUB PTFE GA26/**	PCTFE	PTFE	300	GA26 (0.99x0.51)	90626
		1xLUER F TUB PTFE GA26/**	PCTFE	PTFE	100 - 5000	GA26 (0.99x0.51)	90676 <sup>6</sup>
		1xLUER F TUB PTFE GA24/300	PCTFE	PTFE	300	GA24 (1.10x0.51)	90624
		1xLUER F TUB PTFE GA24/**	PCTFE	PTFE	100 - 5000	GA24 (1.10x0.51)	90674 <sup>6</sup>
		1xLUER F TUB PTFE GA22/300	PCTFE	PTFE	300	GA22 (1.23x0.71)	90622
		1xLUER F TUB PTFE GA22/**	PCTFE	PTFE	100 - 5000	GA22 (1.23x0.71)	90672 <sup>6</sup>
		1xLUER F TUB PTFE GA20/300	PCTFE	PTFE	300	GA20 (1.50x0.91)	90620
		1xLUER F TUB PTFE GA20/**	PCTFE	PTFE	100 - 5000	GA20 (1.50x0.91)	90670 <sup>6</sup>
		1xLUER F TUB PTFE GA19/300	PCTFE	PTFE	300	GA19 (1.62x1.02)	90619
		1xLUER F TUB PTFE GA19/**	PCTFE	PTFE	100 - 5000	GA19 (1.62x1.02)	90669 <sup>6</sup>
		1xLUER F TUB PTFE GA18/300	PCTFE	PTFE	300	GA18 (1.73x1.13)	90618
		1xLUER F TUB PTFE GA18/**	PCTFE	PTFE	100 - 5000	GA18 (1.73x1.13)	90668 <sup>6</sup>
		1xLUER F TUB FEP GA18/**	PCTFE	FEP	100 - 5000	GA18 (2.00x1.00)	210254 <sup>6</sup>
		1xLUER F TUB PTFE GA17/300	PCTFE	PTFE	300	GA17 (1.86x1.26)	90617
		1xLUER F TUB PTFE GA17/**	PCTFE	PTFE	100 - 5000	GA17 (1.86x1.26)	90667 <sup>6</sup>
		1xLUER F TUB PTFE GA16/300	PCTFE	PTFE	300	GA16 (2.02x1.42)	90616
		1xLUER F TUB PTFE GA16/**	PCTFE	PTFE	100 - 5000	GA16 (2.02x1.42)	90666 <sup>6</sup>
		1xLUER F TUB PTFE GA15/300	PCTFE	PTFE	300	GA15 (2.17x1.57)	90615
		1xLUER F TUB PTFE GA15/**	PCTFE	PTFE	100 - 5000	GA15 (2.17x1.57)	90665 <sup>6</sup>
		1xLUER F TUB PTFE GA14/300	PCTFE	PTFE	300	GA14 (2.35x1.75)	90614
		1xLUER F TUB PTFE GA14/**	PCTFE	PTFE	100 - 5000	GA14 (2.35x1.75)	90664 <sup>6</sup>
		1xLUER F TUB PTFE GA13/300	PCTFE	PTFE	300	GA13 (2.54x1.95)	90613
		1xLUER F TUB PTFE GA13/**	PCTFE	PTFE	100 - 5000	GA13 (2.54x1.95)	90663 <sup>6</sup>
		1xLUER F TUB PTFE GA12/300	PCTFE	PTFE	300	GA12 (2.77x2.18)	90612
		1xLUER F TUB PTFE GA12/**	PCTFE	PTFE	100 - 5000	GA12 (2.77x2.18)	90662 <sup>6</sup>
		1xLUER F TUB FEP GA12/**	PCTFE	FEP	100 - 5000	GA12 (2.85x2.00)	210253 <sup>6</sup>
		1xLUER F TUB PTFE GA11/300	PCTFE	PTFE	300	GA11 (3.04x2.44)	90611
		1xLUER F TUB PTFE GA11/**	PCTFE	PTFE	100 - 5000	GA11 (3.04x2.44)	90661 <sup>6</sup>
		1xLUER F TUB PTFE GA10/300	PCTFE	PTFE	300	GA10 (3.33x2.72)	90610
		1xLUER F TUB PTFE GA10/**	PCTFE	PTFE	100 - 5000	GA10 (3.33x2.72)	90660 <sup>6</sup>
		1xLUER F TUB PTFE GA9/300	PCTFE	PTFE	300	GA9 (3.76x3.02)	90609
		1xLUER F TUB PTFE GA9/**	PCTFE	PTFE	100 - 5000	GA9 (3.76x3.02)	90659 <sup>6</sup>
		1xLUER F TUB PTFE GA8/300	PCTFE	PTFE	300	GA8 (4.19x3.43)	90608
		1xLUER F TUB PTFE GA8/**	PCTFE	PTFE	100 - 5000	GA8 (4.19x3.43)	90658 <sup>6</sup>
		1xLUER F TUB PTFE GA7/300	PCTFE	PTFE	300	GA7 (4.60x3.84)	90607
		1xLUER F TUB PTFE GA7/**	PCTFE	PTFE	100 - 5000	GA7 (4.60x3.84)	90657 <sup>6</sup>
1xLUER F TUB PTFE 1/8"/300	PCTFE	PTFE	300	1/8"x1/16" (3.94x3.18)	90641		
1xLUER F TUB PTFE 1/8"/**	PCTFE	PTFE	100 - 5000	1/8"x1/16" (3.94x3.18)	90691 <sup>6</sup>		

White Translucent

# 1/4"-28 FLANGELESS FITTINGS

Description	Fitting Material	Item number	For Tubing Dimension	Fitting Color
 Flangeless fittings	GA11 Fittings 1/4"-28 5/pk	PEEK	10103536	GA11 FEP/PTFE, 1/8" FEP
	GA12 Fittings 1/4"-28 5/pk	PEEK	10103537	GA12 FEP/PTFE
	GA13 Fittings 1/4"-28 5/pk	PEEK	10103538	GA13 PTFE, 13S FEP
	GA14 Fittings 1/4"-28 5/pk	PEEK	10103539	GA14 PTFE
	GA15/16 Fittings 1/4"-28 5/pk	PEEK	10103540	GA15 PTFE, GA16 PTFE
	GA17 Fittings 1/4"-28 5/pk	PEEK	10103561	GA17 PTFE
	GA18 Fittings 1/4"-28 5/pk	PEEK	10103564	GA18 PTFE
	GA19/20 Fittings 1/4"-28 5/pk	PEEK	10103562	GA19 PTFE, GA20 PTFE
 Engraved Color Flangeless fittings	GA11 ** Flangeless Fittings 1/4"-28 5/pk	PEEK	10118954	GA11 FEP/PTFE, 1/8" FEP
	GA12 ** Flangeless Fittings 1/4"-28 5/pk	PEEK	10118955	GA12 FEP/PTFE
	GA13 ** Flangeless Fittings 1/4"-28 5/pk	PEEK	10118957	GA13 PTFE, 13S FEP
	GA14 ** Flangeless Fitting 1/4"-28 5/pk	PEEK	10146425	GA14 PTFE
	GA15/GA16 ** Flangeless Fittings 1/4"-28 5/pk	PEEK	10118958	GA15 PTFE, GA16 PTFE
	GA17 ** Flangeless Fitting 1/4"-28 5/pk	PEEK	10146427	GA17 PTFE
	GA18 ** Flangeless Fittings 1/4"-28 5/pk	PEEK	10118959	GA18 PTFE
	GA18 ** Flangeless Fitting 1/4"-28 5/pk	PEEK	10146429	GA18 FEP
	GA19 ** Flangeless Fitting 1/4"-28 5/pk	PEEK	10146430	GA19 PTFE
	GA20 ** Flangeless Fitting 1/4"-28 5/pk	PEEK	10146431	GA 20 PTFE
	GA22 ** Flangeless Fitting 1/4"-28 5/pk	PEEK	10146432	GA22 PTFE /FEP
	1/16"x1/32" ** Flangeless Fitting 1/4"-28 5/pk	PEEK	10146433	1/16"x1/32" FEP
 Flangeless Kit (Ferrule+Nut)	5PK,FLNGLS,12GA FEP,1/4-28,RED	PEEK	6606319-02	12GA FEP
	KIT,5PK,FLNGLS,11GA,1/4-28,RED	PEEK	6606319-11	GA11 FEP/PTFE, 1/8" FEP
	KIT,5PK,FLNGLS,12GA,1/4-28,RED	PEEK	6606319-12	GA12 PTFE
	KIT,5PK,FLNGLS,13GA,1/4-28,RED	PEEK	6606319-13	GA13 PTFE, 13S FEP
	5PK,FLNGLS,15/16GA,1/4-28,RED	PEEK	6606319-15	GA15 PTFE, GA16 PTFE
	KIT,5PK,FLNGLS,18GA,1/4-28,RED	PEEK	6606319-18	GA18 PTFE /FEP
	5PK,FLNGLS,12GA FEP,1/4-28,YLW	PEEK	6606321-02	12GA FEP
	KIT,5PK,FLNGLS,11GA,1/4-28,YLW	PEEK	6606321-11	GA11 FEP/PTFE, 1/8" FEP
	KIT,5PK,FLNGLS,12GA,1/4-28,YLW	PEEK	6606321-12	GA12 PTFE
	KIT,5PK,FLNGLS,13GA,1/4-28,YLW	PEEK	6606321-13	GA13 PTFE, 13S FEP
	5PK,FLNGLS,15/16GA,1/4-28,YLW	PEEK	6606321-15	GA15 PTFE, GA16 PTFE
	KIT,5PK,FLNGLS,18GA,1/4-28,YLW	PEEK	6606321-18	GA18 PTFE /FEP
	5PK,FLNGLS,12GA FEP,1/4-28,GRN	PEEK	6606323-02	12GA FEP
	KIT,5PK,FLNGLS,11GA,1/4-28,GRN	PEEK	6606323-11	GA11 FEP/PTFE, 1/8" FEP
	KIT,5PK,FLNGLS,12GA,1/4-28,GRN	PEEK	6606323-12	GA12 PTFE
	KIT,5PK,FLNGLS,13GA,1/4-28,GRN	PEEK	6606323-13	GA13 PTFE, 13S FEP
	5PK,FLNGLS,15/16GA,1/4-28,GRN	PEEK	6606323-15	GA15 PTFE, GA16 PTFE
	KIT,5PK,FLNGLS,18GA,1/4-28,GRN	PEEK	6606323-18	GA18 PTFE /FEP

Description	Fitting Material	Item number	For Tubing Dimension	Fitting Color
 Flangeless Kit (Ferrule+Nut)	5PK,FLNGLS,12GA FEP,1/4-28,WHT	PEEK	6606320-02	12GA FEP
	KIT,5PK,FLNGLS,11GA,1/4-28,WHT	PEEK	6606320-11	GA11 FEP/PTFE, 1/8" FEP
	KIT,5PK,FLNGLS,12GA,1/4-28,WHT	PEEK	6606320-12	GA12 PTFE
	KIT,5PK,FLNGLS,13GA,1/4-28,WHT	PEEK	6606320-13	GA13 PTFE, 13S FEP
	5PK,FLNGLS,15/16GA,1/4-28,WHT	PEEK	6606320-15	GA15 PTFE, GA16 PTFE
	KIT,5PK,FLNGLS,18GA,1/4-28,WHT	PEEK	6606320-18	GA18 PTFE /FEP
	5PK,FLNGLS,12GA FEP,1/4-28,BLU	PEEK	6606322-02	12GA FEP
	KIT,5PK,FLNGLS,11GA,1/4-28,BLU	PEEK	6606322-11	GA11 FEP/PTFE, 1/8" FEP
	KIT,5PK,FLNGLS,12GA,1/4-28,BLU	PEEK	6606322-12	GA12 PTFE
	KIT,5PK,FLNGLS,13GA,1/4-28,BLU	PEEK	6606322-13	GA13 PTFE, 13S FEP
	5PK,FLNGLS,15/16GA,1/4-28,BLU	PEEK	6606322-15	GA15 PTFE, GA16 PTFE
	KIT,5PK,FLNGLS,18GA,1/4-28,BLU	PEEK	6606322-18	GA18 PTFE /FEP
	5PK,FLNGLS,12GA FEP,1/4-28,NAT	PEEK	6606318-02	12GA FEP
	KIT,5PK,FLNGLS,11GA,1/4-28,NAT	PEEK	6606318-11	GA11 FEP/PTFE, 1/8" FEP
	KIT,5PK,FLNGLS,12GA,1/4-28,NAT	PEEK	6606318-12	GA12 PTFE
	KIT,5PK,FLNGLS,13GA,1/4-28,NAT	PEEK	6606318-13	GA13 PTFE, 13S FEP
	5PK,FLNGLS,15/16GA,1/4-28,NAT	PEEK	6606318-15	GA15 PTFE, GA16 PTFE
	KIT,5PK,FLNGLS,18GA,1/4-28,NAT	PEEK	6606318-18	GA18 PTFE /FEP
 Ferrules for Flangeless Fittings	GA11 Ferrules 5/pk	KEL-F	10103568	GA11 FEP/PTFE, 1/8" FEP
	GA12 Ferrules for FEP 5/pk	KEL-F	10103569	GA12 FEP
	GA12 Ferrules for PTFE 5/pk	KEL-F	10105440	GA12 PTFE
	GA13 Ferrules 5/pk	KEL-F	10103570	GA13 PTFE, 13S FEP
	GA14 Ferrules 5/pk	KEL-F	10105435	GA14 PTFE
	GA15/16 Ferrules 5/pk	KEL-F	10105583	GA15 PTFE, GA16 PTFE
	GA17/18 Ferrules 5/pk	KEL-F	10103574	GA17 PTFE, GA18 PTFE
	GA18 FEP Ferrule 5/pk	KEL-F	10150794	GA18 FEP
	GA22 FEP Ferrule 5/pk	KEL-F	10150795	GA22 FEP
	GA19/20 Ferrules 5/pk	KEL-F	10103575	GA19 PTFE, GA20 PTFE, 1/16"x1/32" FEP
 Flangeless small Fittings	GA** S Fittings 1/4"-28 5/pk	PEEK	10105888	GA11 - GA20

# TUBING ONLY

Description	Tubing Material	Length [mm]	Gauge	O.D. [mm]	I.D. [mm]	Item number
TUB PTFE GA30/**	PTFE	100 - 5000	GA30	0.75	0.35	20930
TUB PTFE GA28/**	PTFE	100 - 5000	GA28	0.86	0.40	20928
TUB PTFE GA26/**	PTFE	100 - 5000	GA26	0.99	0.51	20926
TUB PTFE GA24/**	PTFE	100 - 5000	GA24	1.10	0.59	20924
TUB PTFE GA22/**	PTFE	100 - 5000	GA22	1.23	0.71	20922
TUB FEP GA22/**	FEP	100 - 5000	GA22	1.23	0.71	10119920
TUB FEP GA22/**	FEP	100 - 5000	GA22	1.88	0.71	20939
TUB FEP GA22/254mm 10/pk	FEP	254	GA22	1.88	0.71	88906
TUB PTFE GA20/**	PTFE	100 - 5000	GA20	1.50	0.91	20920
TUB PTFE GA19/**	PTFE	100 - 5000	GA19	1.62	1.02	20919
TUB PTFE GA18/**	PTFE	100 - 5000	GA18	1.73	1.13	20918
TUB FEP GA18/**	FEP	100 - 5000	GA18	2.00	1.00	20937
TUB FEP GA18/254mm 10/pk	FEP	254	GA18	2.00	1.00	88907
TUB PTFE GA17/**	PTFE	100 - 5000	GA17	1.86	1.26	20917
TUB PTFE GA16/**	PTFE	100 - 5000	GA16	2.02	1.42	20916
TUB PTFE GA15/**	PTFE	100 - 5000	GA15	2.17	1.57	20915
TUB PTFE GA14/**	PTFE	100 - 5000	GA14	2.35	1.75	20914
TUB PTFE GA13/**	PTFE	100 - 5000	GA13	2.54	1.95	20913
TUB PTFE GA13s/**	PTFE	100 - 5000	GA13s	2.50	1.50	10108002
TUB PTFE GA12/**	PTFE	100 - 5000	GA12	2.77	2.18	20912
TUB FEP GA12/**	FEP	100 - 5000	GA12	2.85	2.00	20938
TUB FEP GA12/254mm 10/pk	FEP	254	GA12	2.85	2.00	88908
TUB PTFE GA11/**	PTFE	100 - 5000	GA11	3.04	2.44	20911
TUB FEP GA11/**	FEP	100 - 5000	GA11	3.05	2.44	10108001
TUB PTFE GA10/**	PTFE	100 - 5000	GA10	3.33	2.72	20910
TUB PTFE GA9/**	PTFE	100 - 5000	GA9	3.76	3.02	20909
TUB PTFE GA8/**	PTFE	100 - 5000	GA8	4.19	3.43	20908
TUB PTFE GA7/**	PTFE	100 - 5000	GA7	4.60	3.84	20907
TUB PTFE 0.155"x1/8"/**	PTFE	100 - 5000	0.155"x1/8"	3.94	3.18	20941
TUB PTFE 1/8"x1/16"/3048mm	PTFE	3048	1/8"x1/16"	3.17	1.58	88922
TUB FEP 1/8"x1/16"/**	FEP	100 - 5000	1/8"x1/16"	3.18	1.59	10107999
TUB PTFE 0.123"x1/16"/**	PTFE	100 - 5000	0.1225"x1/16"	3.11	1.59	20942
TUB PTFE 1/16"x1/32"/**	PTFE	100 - 5000	1/16"x1/32"	1.59	0.79	20943
TUB PFA 1.59mmx0.51mm**	PFA	100 - 5000	1/16"x0.02"	1.59	0.51	10155018
TUB PTFE 1x1xLUER F 1/8"/**	FEP	100 - 5000	1/16"x1/32"	1.6	0.79	10154995

# DUAL HUB TUBING ASSEMBLIES

Description	Fitting Material	Tubing Material	Length [mm]	Gauge (ODxID [mm])	Item number	Fitting Type	Fitting Color
1/4"-28 UNF Colored	PEEK	FEP / PTFE	100 - 5000	GA11 - GA20 <sup>1/3</sup>	10106178 <sup>3/4</sup>		
1/4"-28 UNF	PCTFE	FEP	300	GA12 (2.85x2.00)	88918	HV/HV	White Translucent
1/4"-28 UNF	PCTFE	FEP	300	GA18 (2.00x1.00)	88917	HV/HV	
1/4"-28 UNF	PCTFE	PTFE	100 - 5000	0.120"x0.091" (3.04x2.31)	88910 <sup>3/4</sup>	IS/IS	
1/4"-28 UNF	PCTFE	FEP	300	GA22 (1.88x0.71)	88916 <sup>3</sup>	HV/HV	
1/4"-28 UNF	PCTFE	FEP	300	GA22 (1.88x0.71)	88946 <sup>3</sup>	IS/IS	
1/4"-28 UNF	PCTFE	FEP	300	GA22 (1.88x0.71)	88956 <sup>3</sup>	IS/HV	
1/4"-28 UNF	PCTFE	FEP	300	GA18 (2.00x1.00)	88957 <sup>3</sup>	IS/HV	
1/4"-28 UNF	PCTFE	PTFE	230	GA12 (2.77x2.18)	37952 <sup>3</sup>	IS/IS	
1/4"-28 UNF	PCTFE	FEP	635	GA12 (2.77x2.18)	88948 <sup>3</sup>	IS/IS	
1/4"-28 UNF	PCTFE	FEP	300	GA12 (2.77x2.18)	88958 <sup>3</sup>	IS/HV	
1/4"-28 UNF	PCTFE	PTFE	100 - 5000	1/8"x1/16" (3.18x1.60)	88912 <sup>3/4</sup>	IS/IS	
1/4"-28 UNF	PCTFE	PTFE	100 - 5000	1/8"x1/16" (3.18x1.60)	88913 <sup>3/4</sup>	IS/IS	
1/4"-28 UNF	PCTFE	PTFE	100 - 5000	1/16"x0.042" (1.60x1.07)	88900 <sup>3/4</sup>	IS/IS	
1/4"-28 UNF	PCTFE	PTFE	100 - 5000	1/16"x0.042" (1.60x1.07)	88901 <sup>3/4</sup>	IS/IS	
1/4"-28 UNF	PCTFE	PTFE	100 - 5000	1/16"x1/32" (1.60x0.80)	88902 <sup>3/4</sup>	IS/IS	
1/4"-28 UNF	PTFE / FEP		100 - 5000	GA11 - GA20 <sup>1/2</sup>	240083 <sup>3/4</sup>		
M6	PCTFE	PTFE / FEP	100 - 5000	GA11 - GA20 <sup>1/2</sup>	240081 <sup>4</sup>		
Female Luer	PCTFE	FEP	100 - 5000	GA11 - GA20 <sup>1</sup>	210255 <sup>4</sup>		
Female Luer	PCTFE	PTFE	100 - 5000	GA11 - GA20 <sup>1</sup>	210256 <sup>4</sup>		
M6	PCTFE	PTFE	635	0.047"x1/32" (1.19x0.80)	88952	IS/IS	
M6	PCTFE	PTFE	635	0.110"x0.086" (2.79x2.18)	88960	IS/IS	
M6	PCTFE	PTFE	635	1/8"x1/16" (3.18x1.60)	88962	IS/IS	
M6	PCTFE	PTFE	635	1/16"x0.043" (1.60x0.76)	88950	IS/IS	
M6	PCTFE	PTFE / FEP	100 - 5000	GA11 - GA20 <sup>2</sup>	240085 <sup>4</sup>		
Female Luer	PCTFE	PTFE	400	GA30 (0.75x0.35)	240008		
Female Luer	PCTFE	PTFE	500	GA18 (2.00x1.00)	240018		
Female Luer	PCTFE	PTFE / FEP	100 - 5000	GA7 - GA30 <sup>1</sup>	86510 <sup>4</sup>		

<sup>1</sup> OD and ID size available at page 8

<sup>2</sup> Support spring available only for GA12 & GA18

<sup>3</sup> Support spring available only for GA12 Red & GA18 Blue

<sup>4</sup> \*\*X\*\*X\*\*: specify tubing material, gauge, length, and/or coiled. Maximum length: 5 meters

<sup>5</sup> With strain relief



Inch Series (IS) fittings feature longer threads for compatibility with deeper valve ports.










Nut length 0.60" (15.24mm)



The Hamilton Valve (HV) fittings feature shorter threads for shallow ports.

Nut length 0.47" (11.94mm)

# FITTINGS & TUBBING ACCESSORIES









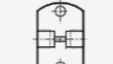



Description	Fitting Material	Gauge (ODxID [mm])	Item number	Fitting Color	
	Kit 1/4"-28 UNF Fitting + Washer 5/pk	PCTFE	GA12 (2.85x2.00)	249985	White Translucent
	Kit 1/4"-28 UNF Fitting + Washer 5/pk	PCTFE	GA18 (2.00x1.00)	249989	
	Kit 1/4"-28 UNF Fitting + Washer 5/pk	PCTFE	GA13s (0.0x0.0)	249986	
	Kit 1/4"-28 UNF Fitting + Washer 5/pk	PCTFE	GA20/22 (0.0x0.0)	249987	
	Kit 1/4"-28 UNF Fitting + Washer 5/pk	PCTFE	GA24 (0.0x0.0)	249988	
	Kit 1/4"-28 UNF Fitting + Kel-F Washer 5/pk	PEEK	GA11 - GA20	10106179	● ● ● ● ● ●
	Kit M6 Fitting + Washer 5/pk	PCTFE	GA12 (2.85x2.00)	249981	White Translucent
	Kit M6 Fitting + Washer 5/pk	PCTFE	GA13s (0.0x0.0)	249984	
	Kit M6 Fitting + Washer 5/pk	PCTFE	GA18 (2.00x1.00)	249980	
	Kit M6 Fitting + Washer 5/pk	PCTFE	GA20/22 (0.0x0.0)	249982	
	Kit M6 Fitting + Washer 10/pk	PCTFE	1/16"x1/32" (0.0.x0.0)	88856	
	Kit M6 Fitting + Washer 10/pk	PCTFE	1/8"x1/16" (0.0.x0.0)	88857	
	Kit M6 Fitting + Washer 5/pk				
	Kit 1/4"-28 UNF Fitting + Metal Washer 10/pk	PCTFE	GA12 (2.85x2.00)	88807	White Translucent
	Kit 1/4"-28 UNF Fitting + Metal Washer 10/pk	PCTFE	GA18 (2.00x1.00)	88806	
	Kit 1/4"-28 UNF Fitting + Washer + Support Spring 10/pk	PCTFE	GA12 (2.85x2.00)	209721	White Translucent
	Kit 1/4"-28 UNF Fitting + Washer + Support Spring 10/pk	PCTFE	GA18 (2.00x1.00)	209722	
	Kit 1/4"-28 UNF Fitting + Washer + Support Spring 10/pk	PEEK	GA12 (2.85x2.00)	10106186	● ● ● ● ● ●
	Kit 1/4"-28 UNF Fitting + Washer + Support Spring 10/pk	PEEK	GA18 (2.00x1.00)	10106182	
	1/4"-28 UNF Fitting 1/pk	PCTFE	GA12 (2.85x2.00)	32807	White Translucent
	1/4"-28 UNF Fitting 1/pk	PCTFE	GA18/22 (0.0x0.0)	32806	
	M6 Fitting 1/pk	PCTFE	1/8"x1/16" (0.0.x0.0)	32857	
	Washer 100/pk	PCTFE	GA12 (2.85x2.00)	209689	White Translucent
	Washer 100/pk	PCTFE	GA18 (2.00x1.00)	209690	
	Washer 1/pk	PCTFE	GA12 (2.85x2.00)	32883	
	Washer 1/pk	PCTFE	GA18/22 (0.0x0.0)	32882	
	Washer 1/pk	PCTFE	GA12 (2.85x2.00)	249924	
	Washer 1/pk	PCTFE	GA18/22 (0.0x0.0)	249922	
	Washer 10/pk	PCTFE	GA12 (2.85x2.00)	88883	
	Washer 10/pk	PCTFE	GA18/22 (0.0x0.0)	88882	
	Washer 100/pk	PCTFE	GA12 (2.85x2.00)	209689	
	Washer 100/pk	PCTFE	GA18 (2.00x1.00)	209690	
		Support Spring 100/pk		GA12 (2.85x2.00)	
Support Spring 100/pk			GA18 (2.00x1.00)	209656	

# GENERAL LABORATORY FITTINGS & ADAPTERS

Description	Connection 1	Connection 2		Material	Item number	
		Thread	Thread			Compatible with Thread depth
 Female Luer / 1/4"-28 UNF Adapter	Female Luer	1/4"-28 UNF Male	≤ 6mm	1.5mm	PCTFE	35031
 Female Luer / 1/4"-28 UNF Adapter	Female Luer	1/4"-28 UNF Male	≤ 8mm	1.5mm	PCTFE	32834
 Female Luer / 1/4"-28 UNF Adapter	Female Luer	1/4"-28 UNF Male	≤ 8mm	3mm	PCTFE	35071
 Female Luer / M6 Adapter	Female Luer	M6 Male	≤ 8mm	1.5mm	PCTFE	32874
 Female Luer / M6 Adapter	Female Luer	M6 Male	≤ 8mm	2mm	PCTFE	230223
 Male Luer / 1/4"-28 UNF Adapter	Male Luer	1/4"-28 UNF Male	≤ 6mm	1.5mm	PCTFE	35030
 Male Luer / 1/4"-28 UNF Adapter	Male Luer	1/4"-28 UNF Male	≤ 6mm	1.5mm	PCTFE	32835
 Male Luer / 1/4"-28 UNF Adapter	Male Luer	1/4"-28 UNF Male	≤ 8mm	3mm	PCTFE	35070
 Male Luer / M6 Adapter	Male Luer	M6 Male	≤ 8mm	2mm	PCTFE	230222
 Male Luer Lock / 1/4"-28 UNF Adapter	Male Luer Lock	1/4"-28 UNF Male	≤ 6mm	1.5mm	PCTFE + Metal	35033
 Male Luer Lock / 1/4"-28 UNF Adapter	Male Luer Lock	1/4"-28 UNF Male	≤ 8mm	1.5mm	PCTFE + Metal	32836
 Male Luer Lock / 1/4"-28 UNF Adapter	Male Luer Lock	1/4"-28 UNF Male	≤ 6mm	3mm	PCTFE + Metal	35073
 Male Luer Lock / M6 Adapter	Male Luer Lock	M6 Male	≤ 6mm	1.5mm	PCTFE + Metal	32876
 M6 Female / 1/4"-28 UNF Adapter	M6 Female	1/4"-28 UNF Male	≤ 8mm	1.5mm	PCTFE	32821
 1/8" Barb / 1/4"-28 UNF Adapter	1/8" Barb	1/4"-28 UNF Male	≤ 6mm	2mm	PCTFE	35032
 1/8" Barb / 1/4"-28 UNF Adapter	1/8" Barb	1/4"-28 UNF Male	≤ 6mm	3mm	PCTFE	35072

GENERAL LABORATORY  
FITTINGS & ADAPTERS

Description		Connection 1		Connection 2		Material	Item number
		Thread	Thread	Compatible with Thread depth	Bore size		
	1/4"-NPT / 1/4"-28 UNF Adapter	1/4"-NPT	1/4"-28 UNF Male	≤ 8mm	1.5mm	PCTFE	32823
	1/8"-NPT / 1/4"-28 UNF Adapter	1/8"-NPT	1/4"-28 UNF Male	≤ 8mm	1.5mm	PCTFE	32822
	1/4"-28 UNF Plug 10/pk	-	1/4"-28 UNF Male	≤ 8mm	-	PCTFE	88802
	M6 Plug 10/pk	-	M6 Male	≤ 8mm	-	PCTFE	88852
	1/4"-28 UNF Union 10/pk	1/4"-28 UNF Female	1/4"-28 UNF Female	≤ 8mm	-	PCTFE	88800
	M6 Union 10/pk	M6 Female	M6 Female	≤ 8mm	-	PCTFE	88850
	1/4"-28 UNF Swivel Union 10/pk	1/4"-28 UNF Male	1/4"-28 UNF Male	≤ 6mm	1.5mm	PCTFE + Metal	35037
	1/4"-28 UNF / 1/16" O.D. Tubing	1/4"-28 UNF Male	-	≤ 6mm	1mm	PCTFE + Metal	32805
	Female Luer / Female Luer Adapter	Female Luer	Female Luer	-	1.5mm	PCTFE	86505
	Female Luer / Male Luer Adapter	Female Luer	Male Luer	-	1.5mm	PCTFE	86507
	Female Luer / Male Luer Lock Adapter	Female Luer	Male Luer Lock	-	1.5mm	PCTFE + Metal	86513
	Female Luer / 1/4"-20 UNC Adapter	Female Luer	1/4"-20 UNC Male	≤ 8mm	1.5mm	PCTFE	86542
	Female Luer Cap	Female Luer	-	-	-	PCTFE	16801
	Male Luer / Male Luer Adapter	Male Luer	Male Luer	-	1.5mm	PCTFE	86506
	Male Luer Lock / Male Luer Adapter	Male Luer Lock	Male Luer	-	1.5mm	PCTFE + Metal	86512
	Male Luer Lock / Male Luer Lock Adapter	Male Luer Lock	Male Luer Lock	-	1.5mm	PCTFE + Metal	86511

Description		Connection 1		Connection 2		Material	Item number
		Thread	Thread	Compatible with Thread depth	Bore size		
	Male Luer Lock / 1/8"-NPT Adapter	Male Luer Lock	1/8"-NPT	≤ 8mm	1.5mm	PCTFE + Metal	86536
	Female Luer / RN Hub (L) Adapter	Female Luer	RN Large Hub	Compatible with Removable Needle (RN) syringes 250 µL and larger.	1mm	PCTFE + Metal	35081
	Male Luer / RN Hub (L) Adapter	Male Luer	RN Large Hub		1mm	PCTFE + Metal	35080
	Male Luer Lock / RN Hub (L) Adapter	Male Luer Lock	RN Large Hub		1mm	PCTFE + Metal	35083
	3 Way "T" Junction 1/4"-28 UNF				≤ 6mm	1.5mm	PCTFE
	3 Way "Y" Junction 1/4"-28 UNF			≤ 6mm	1.5mm	PCTFE	32814
	3 Way "Y" Junction 1/4"-28 UNF			≤ 6mm	3mm	PCTFE	165736
	3 Way "Y" Junction M6			≤ 6mm	1.5mm	PCTFE	32864
	2 Way "I" Junction 1/4"-28 UNF			≤ 6mm	1.5mm	PCTFE	10139894
	Inert Gas Sampling Valve	Male Luer	Female Luer	-	1mm	PCTFE + Metal	86580 <sup>1</sup>
	Bushing for "small RN" type needles	1/4"-28 UNF Male	-	-	-	CTFE	35035
	Bushing for "HAT" type needles	1/4"-28 UNF Male	-	-	-	CTFE	35056

## Material information

# FITTINGS

**PCTFE** (polychlorotrifluoroethylene), commonly referred to as Kel-F®, is a fluoropolymer with outstanding strength, stiffness, and dimensional stability. It has excellent chemical resistance, radiation resistance, and flammability characteristics. It is nonflammable, with heat resistance up to 125°C. It is resistant to cold flow and it has the lowest coefficient of thermal expansion of any unfilled fluoropolymer (-190°C). These characteristics make it an excellent choice when dimensional stability is critical. It is often used for aerospace applications when chemical resistance, a broad operating temperature range, and low flammability are required. It is also used for cryogenic valve applications and laboratory instruments.

**PEEK** (polyetheretherketone) is a high-performance engineering plastic with outstanding resistance to harsh chemicals, and excellent mechanical strength and dimensional stability. It offers hydrolysis resistance to steam, water, and sea water. PEEK has the ability to maintain stiffness at high temperatures and is suitable for continuous use at temperatures up to 170°C. This engineering plastic has a proven track record in challenging environments such as aerospace, oil and gas, food and beverage processing, and semiconductor.



# TUBINGS

**PTFE** (polytetrafluoroethylene) is the generic name for the class of materials such as Teflon®. It offers superior chemical resistance but is limited in pressure and temperature capabilities. Because it's so easy to handle, it is often used in low pressure situations where stainless steel might cause adsorption. PTFE tubing is relatively porous, and compounds of low molecular weight can diffuse through the tubing wall.

### PTFE is inert to the following chemicals

Inorganic Chemicals	Organic Chemicals	Other
Aqua Regia	Alcohols	Biological Fluids
Hydrofluoric Acid	Esters	Fragrances
Fuming Sulfuric Acid	Ketones	Food
Chlorosulfuric Acid	Highly Halogenated Organics	Printing Inks & Dyes
Boiling Sodium Hydroxide Solution	Aromatic Solvents	Low Level Radioactive Substances
Chlorine Gas	Amines	Oxidizers
Hydrogen Peroxide		Industrial Oils
Acid Chlorides		
Hot, Fuming Nitric Acid		



**FEP** (fluorinated ethylene propylene) is another member of the fluorocarbon family with similar chemical properties. It is generally more rigid than PTFE, with somewhat increased tensile strength. It is typically more transparent than PTFE, slightly less porous, and less permeable to oxygen. FEP is not as subject to compressive creep at room temperature as PTFE, and because of its slightly higher coefficient of friction is easier to retain in a compression fitting.

### FEP tubing is inert to most chemicals and solvents, similar to PTFE

		ASTM	PTFE	FEP
Physical	Density (g/cm <sup>3</sup> )	D792	2.16 – 2.18	2.12 – 2.17
	Water Absorption (%)	D570	≤ 0.01	≤ 0.01
	Oxygen Index (%)	D2863	≥ 95	≥ 95
Mechanical	Hardness, Shore D	D2240	50 – 65	55 – 65
	Ultimate Tensile Strength (MPa)	D638	21 – 35	19.6 – 34.32
	Elongation at Break (%)	D638	300 – 500	300 – 400
	Modulus of Elasticity (MPa)	D638	392	343
	Flexural Modulus (MPa)	D790	490 – 588	539 – 637
Electrical	Coefficient of Friction	D1894	0.02 – 0.10	0.04 – 0.06
	Volume Resistivity (Ω - cm)	D257	≤ 1.0 x 10 <sup>18</sup>	< 1.0 x 10 <sup>18</sup>
	Dielectric Constant 1 MHz	D150	2.10	2.03 – 2.10
Thermal	Dielectric Strength (V/mil)	D149	457 – 483	500 – 2023
	Thermal Conductivity (W/m - K)	D433 / C177	0.025 – 0.3	0.250
	Maximum Service Temp, Air (°C)	N/A	260	200
	Melt Temp (°C)	D4591	326 – 327	260 – 275
	Decomposition Temp (°C)	AIR	505	450
	Coefficient of Thermal Expansion, Linear 20° (µm/m-°C)	D696	100	83 – 105

### UV Compatibility

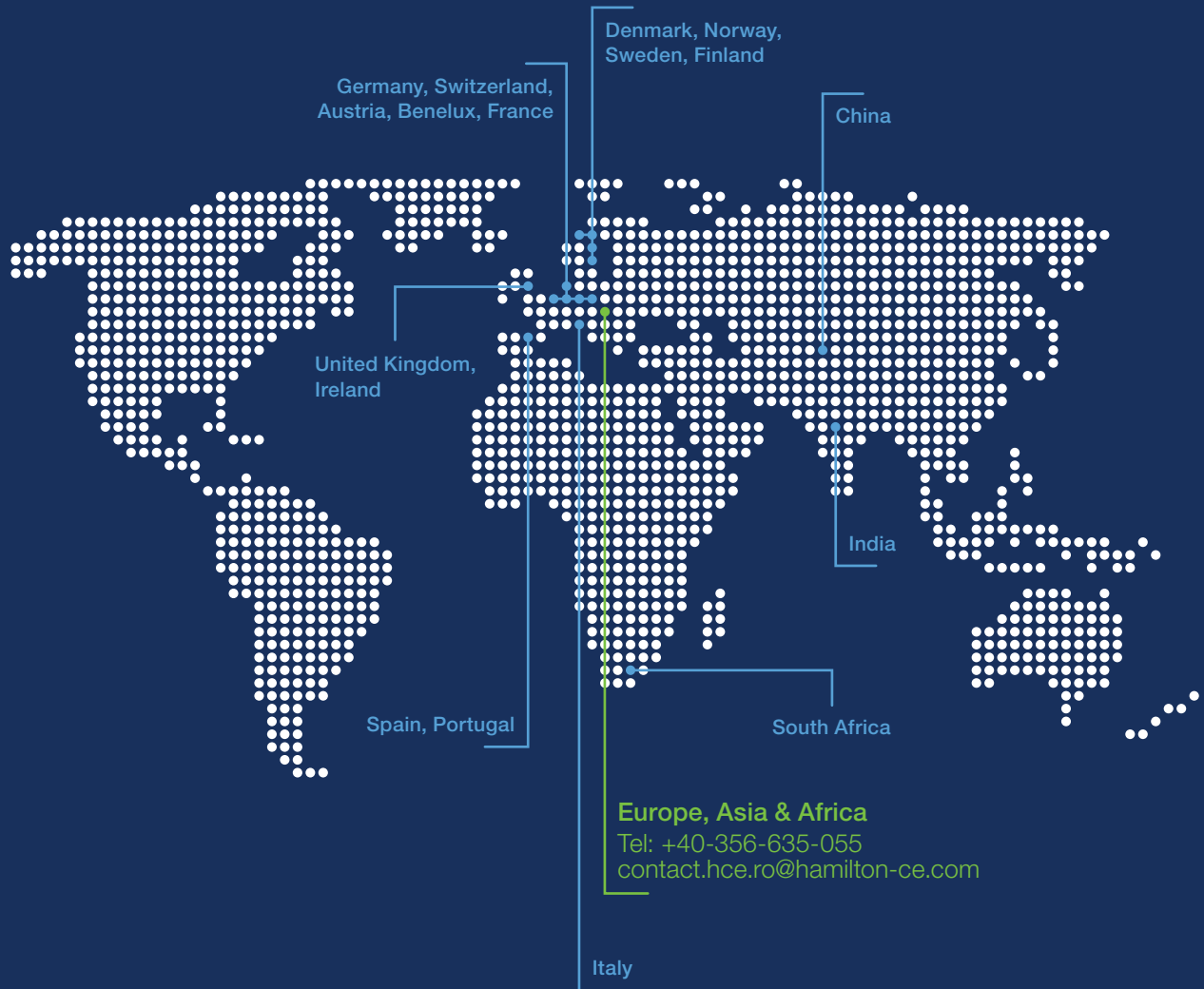
The tubings are virtually unaffected by weather or prolonged exposure to ultraviolet light. Independent testing on samples exposed to virtually all climatic conditions confirm the weather resistant properties of fluoropolymer tubing. Where applications demand complete dependability in these conditions, fluoropolymers are the answer. Resistance to extreme heat, cold, and ultraviolet light encountered in radar and other electronic components, such as antenna bushings, are excellent examples of the value of this material in these applications.

Ultraviolet transmittance can be another useful aspect of fluoropolymer tubing. While levels of UV transmittance vary among the fluoropolymer resin family, tubings are used in applications such as water purification with excellent results. Crystallinity and wall thickness also affect the level of transmittance tubing will allow.

### Sterilization methods

Resin	ETO	Autoclave	Gamma
PTFE	Excellent	Average	Poor
FEP	Excellent	Excellent	Good





To find a subsidiary or distributor in your area, please visit, [www.hamiltoncompany.com/support](http://www.hamiltoncompany.com/support).

Web: [www.hamiltoncompany.com](http://www.hamiltoncompany.com)

**Hamilton Europe, Asia & Africa**  
Hamilton Central Europe S.R.L.  
str. Hamilton no. 2-4  
307210 Giarmata, Romania  
Tel: +40-356-635-055  
contact.hce.ro@hamilton-ce.com