

+ Innovafluor® PFA / FEP Semi-conductor grade fluororesin tube

Innovafluor PFA and FEP series fluororesin tubing has excellent chemical and physical properties and can be used in a wide temperature range, depending on the type of polymer, it can be used in the range of 240 to 260 degrees Celsius. Most of these fluororesin polymers are similar in physical and chemical properties, the main difference lies in temperature, transparency and mechanical strength. Free of plasticizers, stabilizers and other fillers, pure and pollution-free. Unlike metal and rubber, it is non-corrosive and oxidizing. Unlike plastics, it will not be corroded by solvents, acids and bases, and hydrocarbon fuels, and can be widely used in industries that require corrosion resistance, food, analytical instruments, medical and biopharmaceutical fields. And different colors can be customized according to customer requirements.

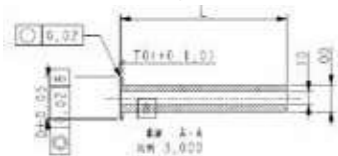


+ Innovafluor® PFA / FEP nomenclature

Innovafluor® PFA
F5D0-
Innovafluor® FEP
F3D0-

*Other calibers, lengths or packing methods can be customized

Cat. No.	Model	ID		OD		Wall Thickness		Per Package Length*	
		(mm)	(inch)	(mm)	(inch)	(mm)	(inch)	(m)	(foot)
F□D0-041-0050-0150	Metric size	0.50		1.50		0.50		100	
F□D0-041-0079-0397	13#	0.79	1/32	3.97	5/32	1.59	1/16	100	
F□D0-041-0100-0200	Metric size	1.00		2.00		0.50		100	
F□D0-041-0150-0250	Metric size	1.50		2.50		0.50		100	
F□D0-041-0100-0300	Metric size	1.00		3.00		1.00		100	
F□D0-041-0159-0318		1.59	1/16	3.18	1/8	0.79	1/32	100	
F□D0-041-0159-0476	14#	1.59	1/16	4.76	3/16	1.59	1/16	100	
F□D0-041-0159-0635	119#	1.59	1/16	6.35	1/4	2.38	3/32	100	
F□D0-041-0200-0400	Metric size	2.00		4.00		1.00		100	
F□D0-041-0238-0556	19#	2.38	3/32	5.56	7/32	1.59	1/16	100	
F□D0-041-0300-0500	Metric size	3.00		5.00		1.00		100	
F□D0-041-0318-0476		3.18	1/8	4.76	3/16	0.79	1/32	100	
F□D0-041-0318-0635	16#	3.18	1/8	6.35	1/4	1.59	1/16	100	
F□D0-201-0318-0794	120#	3.18	1/8	7.94	5/16	2.38	3/32	15.2	50
F□D0-201-0397-0714		3.97	5/32	7.14	9/32	1.59	1/16	15.2	50
F□D0-201-0476-0794	25#	4.76	3/16	7.94	5/16	1.59	1/16	15.2	50
F□D0-201-0476-0953	15#	4.76	3/16	9.53	3/8	2.38	3/32	15.2	50
F□D0-201-0635-0953	17#	6.35	1/4	9.53	3/8	1.59	1/16	15.2	50
F□D0-201-0635-1111	24#	6.35	1/4	11.11	7/16	2.38	3/32	15.2	50
F□D0-201-0635-1270	26#	6.34	1/4	12.70	1/2	3.18	1/8	15.2	50
F□D0-201-0794-1111	18#	7.94	5/16	11.11	7/16	1.59	1/16	15.2	50
F□D0-201-0794-1270	35#	7.94	5/16	12.70	1/2	2.38	3/32	15.2	50
F□D0-201-0953-1270	96#	9.53	3/8	12.70	1/2	1.59	1/16	15.2	50
F□D0-201-0953-1429	36#	9.53	3/8	14.29	9/16	2.38	3/32	15.2	50
F□D0-201-0953-1588	73#	9.53	3/8	15.88	5/8	3.18	1/8	15.2	50
F□D0-201-1111-1429		11.11	7/16	14.29	9/16	1.59	1/16	15.2	50
F□D0-201-1270-1588		12.70	1/2	15.88	5/8	1.59	1/16	15.2	50
F□D0-201-1270-1905	82#	12.70	1/2	19.05	3/4	3.18	1/8	15.2	50
F□D0-201-1270-2223	88#	12.70	1/2	22.23	7/8	4.76	3/16	15.2	50
F□D0-201-1588-2064		15.88	5/8	20.64	13/16	2.38	3/32	15.2	50
F□D0-101-1588-2223	184#	15.88	5/8	22.23	7/8	3.18	1/8	7.62	25
F□D0-101-1588-2540	89#	15.88	5/8	25.4	1	4.76	3/16	7.62	25
F□D0-101-1905-2540		19.05	3/4	25.4	1	3.18	1/8	7.62	25
F□D0-101-1905-2858	191#	19.05	3/4	28.58	1-1/8	4.76	3/16	7.62	25
F□D0-101-1905-3175	91#	19.05	3/4	31.75	1-1/4	6.35	1/4	7.62	25
F□D0-101-2540-3175		25.40	1	31.75	1-1/4	3.18	1/8	7.62	25
F□D0-101-2540-3493	92#	25.40	1	34.93	1-3/8	4.76	3/16	7.62	25
F□D0-101-2540-3810		25.40	1	38.10	1-1/2	6.35	1/4	7.62	25



+ Innovafluor® PFA / FEP Product Specification

PFA/FEP Tubing															
Feature	Clear or black, chemical resistant <ul style="list-style-type: none"> Colorless, transparent or black, the inner wall is smooth without residue Chemical resistance, common acid and alkali, etc. Resistant to staining 80 degrees to 260 degrees temperature range Conform to RoHS and REACH, ISO1093 standard 														
Caution	• Avoid death														
Material	• PFA/FEP fluororesin														
Operating temperature range	-80°C to +260°C														
Physical properties	<table border="0"> <tr> <td>Colorless transparent / black</td> <td>Color</td> </tr> <tr> <td>Shore A Hardness ASTM D 2240</td> <td>PFA 60D, FEP 55D</td> </tr> <tr> <td>Density ASTM D792</td> <td>2.17 g/cm³</td> </tr> <tr> <td>Tensile Strength at Break ASTM D 412</td> <td>18 MPa</td> </tr> <tr> <td>Tensile Elongation ASTM D 412</td> <td>300 %</td> </tr> <tr> <td>Tear Strength ASTM D 1004-94</td> <td></td> </tr> <tr> <td>Permanent Compression Set 70°C 22Hrs ASTM D 395</td> <td></td> </tr> </table>	Colorless transparent / black	Color	Shore A Hardness ASTM D 2240	PFA 60D, FEP 55D	Density ASTM D792	2.17 g/cm ³	Tensile Strength at Break ASTM D 412	18 MPa	Tensile Elongation ASTM D 412	300 %	Tear Strength ASTM D 1004-94		Permanent Compression Set 70°C 22Hrs ASTM D 395	
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Permanent Compression Set 70°C 22Hrs ASTM D 395															
Regulations and Certifications	ISO 10933, FDA, RoHS, REACH														
Sterilization	121 °C 30 minutes steam sterilization single pass ETO ethylene oxide sterilized single-shot														
Gas permeability	$\frac{\text{Gas volume [cm}^3\text{]} \times \text{wall thickness [mm]}}{\text{Inner Diameter Sectional Area [cm}^2\text{]} \times \text{Time [sec]} \times \text{Pressure drop along pipe wall [cm Hg]}} \times 10^{-10}$														
Odor Toxicity	none														
Theoretical service life															

+ Innovafluor® PTFE Semi-conductor grade PTFE tube

- Longest service life of Innovafluor tubing material
- Excellent choice where fluoropolymer tubing and good chemical resistance is needed

+ Innovafluor® PTFE Series can also choose to be produced in a clean room, Strictly control the level of particles, and can carry out other processing such as flanging

Innovafluor PTFE series fluororesin tubing has excellent chemical and physical properties and can be used in a wide temperature range, up to 400 degrees Celsius depending on the type of polymer. These fluororesin polymers are free of plasticizers, stabilizers and other fillers and are pure and pollution-free. Unlike metal and rubber, it is non-corrosive and oxidizing. Unlike plastics, it will not be corroded by solvents, acids and bases, and hydrocarbon fuels, and can be widely used in industries that require corrosion resistance, food, analytical instruments, medical and biopharmaceutical fields. And different colors can be customized according to customer requirements.

Adopt precision extrusion process, strictly control the dimensional tolerance, and can customize the cutting length. Secondary flanging, flaring, coding, laser etching and other secondary treatment processes can also be used for customized production.

*Other calibers, lengths or packing methods can be customized

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+ Innovafluor® PTFE Product Specification Sheet

PTFE tubing															
Feature	PTFE <ul style="list-style-type: none"> Colorless, transparent or black, the inner wall is smooth without residue Chemical resistance, common acid and alkali, etc. Resistant to staining 80 degrees to 400 degrees temperature range Comply with PHS and REACH, ISO1093 standard 														
Caution	• Avoid high pressure														
Material	• PTFE														
Operating temperature range	-80°C to +400°C														
Physical properties	<table border="0"> <tr> <td>Colorless & transparent</td> <td>Color</td> </tr> <tr> <td>Shore A Hardness ASTM D 2240</td> <td>60D</td> </tr> <tr> <td>Density ASTM D792</td> <td>2.17 g/cm³</td> </tr> <tr> <td>Tensile Strength at Break ASTM D 412</td> <td>18 MPa</td> </tr> <tr> <td>Tensile Elongation ASTM D 412</td> <td>300 %</td> </tr> <tr> <td>Tear Strength ASTM D 1004-94</td> <td></td> </tr> <tr> <td>Permanent Compression Set 23°C 22Hrs ASTM D 395</td> <td></td> </tr> </table>	Colorless & transparent	Color	Shore A Hardness ASTM D 2240	60D	Density ASTM D792	2.17 g/cm ³	Tensile Strength at Break ASTM D 412	18 MPa	Tensile Elongation ASTM D 412	300 %	Tear Strength ASTM D 1004-94		Permanent Compression Set 23°C 22Hrs ASTM D 395	
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Permanent Compression Set 23°C 22Hrs ASTM D 395															
Regulations and Certifications	FDA, ISO 10993, RoHS, REACH														
Sterilization	121 °C 30 minutes steam sterilization single pass ETO ethylene oxide sterilized single-shot														
Gas permeability	$\frac{\text{CO}_2 \text{ Gas volume [cm}^3\text{]} \times \text{wall thickness [mm]}}{\text{O}_2 \text{ Inner Diameter Sectional Area [cm}^2\text{]} \times \text{Time [sec]} \times \text{Pressure drop along pipe wall [cm Hg]}} \times 10^{-10}$														
Odor Toxicity	none														
Theoretical service life															