


# Tubes

### Flat Tubes

**PUTMF**  
**PUTMFL**



Material: Polyurethane

Part Number		Number of Bores	Standard Length (m)	Configurable Length (0.5m Increment)	I.D. (mm)	Min. Bending Radius (mm)	Mass (kg/m)	Standard		Configurable Length	
Type	O.D. (mm)		PUTMF	PUTMFL				Unit Price	Volume Discount Rate	Unit Price/m	Volume Discount Rate/m
PUTMF (Standard Length)	4	2	20	0.5-19.5	2	15	0.022	1 pc.	2-4	1 pc.	2-4
			25								
			30								
	6	3	20		4	25	0.033	1 pc.	2-4	1 pc.	2-4
			25								
			30								
PUTMFL (Configurable Length)	8	4	20	0.5-19.5	5	40	0.076	1 pc.	2-4	1 pc.	2-4
			25								
			30								
	10	4	20		6.5	55	0.111	1 pc.	2-4	1 pc.	2-4
			25								
			30								
12	4	20	8	65	0.148	1 pc.	2-4	1 pc.	2-4		
		25									
		30									

Color Matching: 2-Bore=Clear, Blue; 3-Bore=Clear, Blue, Light Green; 4-Bore=Clear, Blue, Light Green, Green

### Water Resistant Polyurethane Spiral Tubes

**PUTSP**




Material: Polyurethane

Part Number	Operating Limit Length (m)	Tube Color	I.D. (mm)	D	L	A	B	Min. Bending Radius (mm)	O.D. Accuracy (mm)	Mass (kg/m)	Unit Price/m	Volume Discount Rate/m	
PUTSP	4	Black	2	21	460	60	60	5	±0.1	0.009	1 pc.	2-4	
													700
													1000
													1300
													850
													1750
6	4	38	580	180	120	120	120	12	±0.1	0.019	1 pc.	5-10	
													1000
													1300
													1750
													1100
													1900
8	5	42	640	240	200	200	200	15	±0.1	0.037	1 pc.	5-10	
													1000
													1300
													1750
													1150
													1900
10	6.5	52	700	300	300	300	300	25	±0.1	0.055	1 pc.	5-10	
													1000
													1300
													1750
													1500
													2200
12	8	67	760	360	450	450	450	28	±0.1	0.076	1 pc.	5-10	
													1000
													1300
													1750
													2200
													3100

Operating Limit Length is the overall length (L) of the tube when extended to a serviceable maximum. Minimum bending radius is based on operation of bending the straight parts at both ends.

### Multi-Spiral Tubes

**PUTMSP**



Material: Polyurethane

Core (Color) Arrangements

Number of Bores	2 Bores	3 Bores	4 Bores
2	① ②	① ② ③	① ② ③ ④
3	① ② ③	① ② ③ ④	① ② ③ ④ ⑤
4	① ② ③ ④	① ② ③ ④ ⑤	① ② ③ ④ ⑤ ⑥

Part Number	Number of Bores	Nominal Length (mm)	Operating Limit Length (m)	I.D. (mm)	Min. Bending Radius (mm)	D	L	A	B	Unit Price/m	Volume Discount Rate/m
PUTMSP	4	700	787	2	15	21	529	129	200	1 pc.	2-4
		800									
		900									
	6	1100	1133	4	25	44	693	293	200	1 pc.	2-4
		1200									
		1400									
8	1200	1210	5	40	52	739	339	200	1 pc.	2-4	
	1400										
	1600										
10	3	1400	1417	6.5	55	63	909	509	200	1 pc.	2-4
		1600									
		1700									
	4	1400	1417	8	65	84	1008	608	200	1 pc.	2-4
		1700									
		1900									
12	1600	1615	8	230	108	805	405	200	1 pc.	2-4	
	1900										
	2200										

Operating Limit Length is the overall length (L) of the tube when extended to a serviceable maximum. Minimum bending radius is based on operation of bending the straight parts at both ends.

### Slit Spiral Tubes

With Fluoresin Insulated Wire



Material: Polyurethane

Part Number	Nominal Length (mm)	Wire (mm²)	L	Operating Limit Length (m)	I.D. (mm)	Min. Bending Radius (mm)	A	B <sub>1</sub>	B <sub>2</sub>	G	H	Unit Price/m	Volume Discount Rate/m
PUTSP	4	0.15	445	535	2.5	40	135	150	250	35	300	1 pc.	2-4
			580										
			900										
	6	500	465	560	4	65	130	150	250	49	300	1 pc.	2-4
		700											
		800											
8	600	490	670	5	90	180	150	250	66	300	1 pc.	2-4	
	900												
	1200												

Operating Limit Length is the overall length (L) of the tube when extended to a serviceable maximum. Minimum bending radius is based on operation of bending the straight parts at both ends.

Features: The tube can flex and follow the movements of linear slide units, etc. Electrical wire can easily be inserted and removed from the slit on the side.

### Sputtering Resistant Tubes

**PUTS**  
**PUTSL**



Material: Incombustible Polyurethane

Part Number	Standard Length (m)	Configurable Length (0.5m Increment)	Tube Color	I.D. (mm)	Min. Bending Radius (mm)	O.D. Accuracy (mm)	Mass (kg/m)	Standard		Configurable Length		
Type	O.D. (mm)	PUTS	PUTSL					Unit Price	Volume Discount Rate	Unit Price/m	Volume Discount Rate/m	
PUTS (Standard Length)	6	10	B (Black)	4	15	±0.1	0.019	1-4 pc(s).	5-10	1-4 pc(s).	5-10	
												20
												30
	8	10		20	5	20	0.037	1 pc.	2-4	1 pc.	2-4	
												25
												30
PUTSL (Configurable Length)	10	20	6.5	25	±0.1	0.055	1 pc.	2-4	1 pc.	2-4		
											25	
											30	
12	10	20	8	30	+0.1	-0.15	0.076	1 pc.	2-4	1 pc.	2-4	
												25
												30

### Vacuum Tubes

**PUVFN**  
**PUVFLN**



Material: Soft Polyurethane

Part Number	Standard Length (m)	Configurable Length (0.5m Increment)	I.D. (mm)	Min. Bending Radius (mm)	O.D. Accuracy (mm)	Mass (kg/m)	Standard		Configurable Length		
Type	O.D. (mm)	PUVFN	PUVFLN				Unit Price	Volume Discount Rate	Unit Price/m	Volume Discount Rate/m	
PUVFN (Standard Length)	4	10	2.5	12	±0.1	0.009	1-4 pc(s).	5-10	1-4 pc(s).	5-10	
											20
											30
PUVFLN (Configurable Length)	6	10	4	18	±0.1	0.018	1-4 pc(s).	5-10	1-4 pc(s).	5-10	
											20
											30

Use Inserts for Soft Tubes on (P.1390) when connecting these tubes to One-Touch Couplings.

Ordering Example

Part Number: PUTMF4 - Number of Bores: 3 - Length: 20

Part Number: PUTMSP6 - Number of Bores: 4 - Length: 900

Part Number: PUTSL8 - Length: 1.5 - Color: R

For characteristics, see P.1383.

### Antistatic Tubes

**PUAS**  
**PUASL**




Material: Conductive Polyurethane

Part Number	Standard Length (m)	Configurable Length (0.5m Increment)	I.D. (mm)	Min. Bending Radius (mm)	O.D. Accuracy (mm)	Mass (kg/m)	Standard		Configurable Length		
Type	O.D. (mm)	PUAS	PUASL				Unit Price	Volume Discount Rate	Unit Price/m	Volume Discount Rate/m	
PUAS (Standard Length)	4	10	2.5	10	±0.1	0.009	1-4 pc(s).	5-10	1-4 pc(s).	5-10	
											20
											30
6	10	20	4	15	±0.1	0.019	1 pc.	2-4	1 pc.	2-4	
											25
											30
8	10	20	5	20	±0.1	0.037	1 pc.	2-4	1 pc.	2-4	
											25
											30
PUASL (Configurable Length)	10	20	6.5	25	+0.1	0.055	1 pc.	2-4	1 pc.	2-4	
											25
											30
12	10	20	8	30	-0.15	0.076	1 pc.	2-4	1 pc.	2-4	
											25
											30

### Polyolefin Tubes

**PORF**  
**PORFL**




Material: Polyolefin Resin

Part Number	Standard Length (m)	Configurable Length (0.5m Increment)	I.D. (mm)	Min. Bending Radius (mm)	O.D. Accuracy (mm)	Mass (kg/m)	Standard		Configurable Length			
Type	O.D. (mm)	PORF	PORFL				Unit Price	Volume Discount Rate	Unit Price/m	Volume Discount Rate/m		
PORF (Standard Length)	4	10	2.5	8	±0.1	0.0069	1-4 pc(s).	5-10	1-4 pc(s).	5-10		
											20	
											30	
	6	10	20	4	14	±0.1	0.0141	1 pc.	2-4	1 pc.	2-4	
												25
												30
8	10	20	5	20	±0.1	0.0276	1 pc.	2-4	1 pc.	2-4		
											25	
											30	
PORFL (Configurable Length)	10	20	6.5	25	±0.1	0.0408	1 pc.	2-4	1 pc.	2-4		
											25	
											30	
12	10	20	8.0	30	±0.1	0.0565	1 pc.	2-4	1 pc.	2-4		
											25	
											30	

### Fluoresin Tubes

**PUTF**  
**PUTFL**



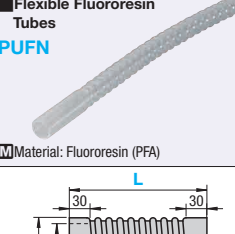
Material: Fluoresin (PFA)

Part Number	Standard Length (m)	Configurable Length (0.5m Increment)	I.D. (mm)	Min. Bending Radius (mm)	O.D. Accuracy (mm)	Max. Operating Pressure (MPa)	Burst Pressure (MPa)	Mass (kg/m)	Standard		Configurable Length		
Type	O.D. (mm)	PUTF	PUTFL						Unit Price	Volume Discount Rate	Unit Price/m	Volume Discount Rate/m	
PUTF (Standard Length)	3.2	10	1.6	32	±0.1	1.1	4.5	0.013	1-4 pc(s).	5-10	1-4 pc(s).	5-10	
													20
													30
6	10	20	2	30	±0.1	2.5	10	0.020	1 pc.	2-4	1 pc.	2-4	
													25
													30
PUTFL (Configurable Length)	8	10	4	50	±0.1	1.7	7	0.034	1 pc.	2-4	1 pc.	2-4	
													20
													30
10	10	20	6	80	±0.1	1	4	0.047	1 pc.	2-4	1 pc.	2-4	
													25
													30
12	10	20	8	120	+0.1	0.75	3	0.061	1 pc.	2-4	1 pc.	2-4	
													25
													30
12	10	20	10	200	-0.15	0.75	3	0.074	1 pc.	2-4	1 pc.	2-4	
													25
													30

Maximum operating pressure and burst pressure shown are values at ambient temperature.

### Flexible Fluoresin Tubes

**PUFN**



Material: Fluoresin (PFA)

Part Number	L Selection (mm)	Inner Dia. d (mm)	Min. Bending Radius (mm)	O.D. Accuracy (mm)	Max. Operating Pressure (MPa)	Burst Pressure (MPa)	Mass (kg/m)	Standard		Configurable Length		
Type	Outer Dia. D (mm)							Unit Price	Volume Discount Rate	Unit Price/m	Volume Discount Rate/m	
PUFN	300	4	10	±0.1	1.7	7	0.034	1-4 pc(s).	5-10	1-4 pc(s).	5-10	
												500
												1000
	500	6	10	±0.1	1.1	4.5	0.047	1 pc.	2-4	1 pc.	2-4	
												1000
												300
	800	8	15	±0.1	0.8	3.5	0.061	1 pc.	2-4	1 pc.	2-4	
												1000
												300
	1000	10	15	±0.1	0.7	3	0.074	1 pc.	2-4	1 pc.	2-4	
												300
												500

Minimum bending radius shown is based on static state. When tubing in the dynamic state, the rough standard is the value of 3 times higher than that of static.

O.D. accuracy is the value of straight parts at both ends. Maximum operating pressure and burst pressure shown are values at ambient temperature.

### Soft Fluoresin Tubes

**PUJTF**