## Fluoropolymer Tubing Series TL/TIL Material: Super PFA

RoHS

### **Series and Specifications**

Tubing ı		-	-	etric sizes		<i>,</i>						Series TIL	, 			
-		TL0403	TL0604	TL0806	TL1008	TL1210	TL1916	TIL01	TILB01	TIL05	TIL07	TIL11	TIL13	TIL19	TIL25	
Nominal diameter		-	-	-	_	_	_	1/8"	1/8"	3/16"	1/4"	3/8"	1/2"	3/4"	1"	
ubing	size	ø4 x ø3	ø6 x ø4	ø8 x ø6	ø10 x ø8	ø12 x ø10	ø19 x ø16	1/8" x 0.086"	1/8" x 1/16"	3/16" x 1/8"	1/4" x 5/32"	3/8" x 1/4"	1/2" x 3/8"	3/4" x 5/8"	1" x 7/8'	
O.D. (mm)	Basic diameter	4	6	8	10	12	19	3.18	3.18	4.75	6.35	9.53	12.7	19.05	25.4	
	Tolerance	±0.1				+0.2 -0.1 ±0.1				±0.1				+0.2 -0.1		
hickness	Basic diameter	0.5		-	1		1.5	0.5	0.8	0.8	1.2		1.	.6		
(mm) Tolerance		±0.05							±0.08	±0.12	±0.15					
	10 m						_	_	_	_			_	_		
	20 m								_		•					
	50 m								_							
Bundle	100 m						•		_		٠				_	
	50 Ft. (16 m)	-	-	—	—	—	—							•		
	100 Ft. (33 m)	-	-	-	_	_	_							•		
raight pipe	2 m								—							
olor							Trar	nslucent (c	color of ma	aterial)						
Applicable fluid		Please refer to the applicable fluid in page 389.														
	fittings Note 3)							LQ1, L	.Q2, LQ3							
ressure (	rating Note 1) (at 20°C)		1 MPa		0.9MPa	Pa 0.7 MPa 0.6 MPa 1					IPa			0.7 MPa	0.5 MP	
nt 20°C	ressure ;)		6.9 MPa	4.7 MPa	3.6MPa	2.9 MPa	2.6 MPa	6.4 MPa	9.9 MPa	6.7 MPa	7.9 MPa	6.7 MPa	4.6 MPa	2.8 MPa	2.0 MP	
Min. bending Note 2) radius (mm)		2	20	40	65	110	160	12	6	2	20	30	60	160	290	
Max. operating temperature (Fixed use)								26	60°C							
laterial	I							Sup	er PFA							
	To op equat (Max • When A sur ote 2) The mi	erate at a te ion below: W operating using a fluid ge pressure nimum bend	abnormal tem emperature of Vhen the value pressure) = d in liquid for higher than t ling radius is	nperature inc ther than 20 <sup>°</sup> ue (calculate <b>: 1/4 x (burs</b> m, the surge the maximum measured u	crease due to °C, the oper- d using the <b>t pressure</b> pressure m n operating using the me	o adiabatic c ating pressu formula belo <b>drop coeffic</b> ust be no mo pressure car	ompression re must be n w) exceeds cient) x (bur ore than the cause brea	can cause tu to more than 1 MPa, the M rst pressure maximum op kage of the f	bing to burst the value ca fax. operatin at 20°C) perating pres	lculated using g pressure is	g the 1 MPa.	Fixed side	2R		the tubing hape. Then ide fixed, close the and 2R at the	
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No Burst 1.0 0.8 0.6 0.6 0.6 0.6 0.6 0.4 0.2 0 20	To op equat (Max • When A sur, bte 2) The mi ote 3) One-to press press 40 60 80 fluorine	erate at a te ion below: W operating u using a fluid ge pressure nimum bend uch and inse sure dr induction 100 120 140 Temperatu e ion am Flu 0.1	bhormal tem imperature o Vhen the value pressure) = d in liquid d in liquid d ing radius is ert fittings cau COP CU COP CU CO	perature inc ther than 20 is 1/4 x (burs m, the surge the maximum measured u n also be use ITVE	Elu	tting mount Type	etal ion Alimit 4.5	can cause tu o more than 1 MPa, the M rst pressure maximum op kage of the f at the right.	hing to burst the value ca fax. operatin at 20°C) berating pres itting or burst TIL Model Model Ni Na 0.2 7.1	(ng/cm <sup>2</sup> )	e the 1 MPa. oing. D Orde D 2 D 2	Period Pe	Applic metric Type Roll Straight Applic size or	able to l and inc flattens, e able to l and inc bubing fold flattens, e and inc bubing fold flattens, e and inc bubing fold flattens, e c flattens, e c f f f f f f f f f f f f f f f f	the tubin hape. Ther ide fixed, close the and R at the re the is or ic.	

#### Note 4) Figures shown in tables are representative values, not guaranteed values.



# Applicable Fluids

## Material and fluid compatibility check list for high purity fluoropolymer fittings TL/TIL

Chemical	•	Compatibility			
Acetic acid	100%	0			
Acetone	100%	O Note 1)			
Ammonium fluoride	40%	0			
Ammonium hydroxide	30%	0			
Butyl acetate	100%	0			
Methylne chloride	100%	0			
Hydrochloric acid	38%	0			
Hydrofluoric acid	50%	0			
Hydrogen peroxide	60%	0			
Methanol	100%	0			
Methyl ethyl Ketone	_	0			
Nitric acid	70%	0			
Phosphoric acid	86%	0			
Caustic potash	85%	0			
Sulfuric acid	100%	0			
Toluene	_	Note 1)			
Xylene	_	0			
Sodium hydroxide	100%	0			
1.1.1-Trichloroethane	100%	0			
Rhosphorus pentachloride	_	0			
Isobutyl alcohol	_	O Note 1)			
Isopropyl alcohol	_	O Note 1)			
Ozone		0			
Ethyl acetate		O Note 1)			
Deionized water	_	0			
Nitrogen		0			
Ultrapure water	_	0			
Tmah	_	0			

### **▲** Precautions

Be sure to read before handling. Refer to front matters 58 and 59 for Safety Instructions, pages 13 to 16 for Fittings and Tubing Precautions and pages 314, 315, 351 and 352 for Fluoropolymer Fittings Precautions.

The material and fluid compatibility check list provides reference values as a guide only. Note 1) Since static electricity may be generated, implement suitable countermeasures.

Table symbol O can be used.

Compatibility is indicated for fluid temperatures of 200°C or less.

• The material and fluid compatibility check list provides reference values as a guide only, therefore we do not guarantee the application to our product.

• The data above is based on the information presented by the material manufacturers.

SMC is not responsible for its accuracy and any damage happened because of this data.

