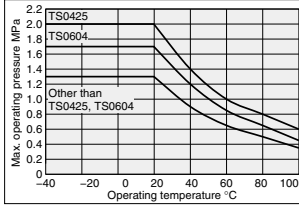


Soft Nylon Tubing TS/TISA Series

RoHS

For general pneumatic tubing
Pliable soft nylon tubing

Max. Operating Pressure



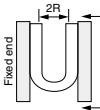
⚠️ Precautions

Be sure to read this before handling the products.
Refer to page 11 for safety instructions and pages 14 to 18 for fittings and tubing precautions.

⚠️ Caution

- Applicable for general industrial water. Please consult with SMC if using for the other kind of fluid. Also, the surge voltage pressure must be under the maximum operating pressure. If the surge pressure exceeds the maximum operating pressure, it will result in damage to fittings and tubes.
- Abnormal temperature rise caused by adiabatic compression may result in the tube bursting.
- Please exercise caution when using this item in a clean room. There is a possibility of plasticizer and other materials precipitating on the tube surface and detracting from the cleanliness level of the room.

How to measure the minimum bending radius



At a temperature of 20°C, bend the tubing into a U shape. Fix one end and gradually move the other end closer. Measure 2R at the point where the outside diameter's rate of change is 10%.

Model

● — 20 m roll □ — 100 m roll (TS1612 is reel.)

Model	Metric size (TS series)										Inch size (TISA series)				
	TS0425	TS0604	TS0806	TS1075	TS1209	TS1612	TISA01	TISA05	TISA07	TISA11	TISA13				
Tubing O.D. (mm)	4	6	8	10	12	16	3.18	4.76	6.35	9.53	12.7				
Tubing I.D. (mm)	2.5	4	6	7.5	9	12	2.18	3.48	4.57	6.99	9.56				
Black (B)	●	●	●	●	●	●	●	●	●	●	●				
White (W)	●	●	●	●	●	●	●	●	●	●	●				
Red (R)	●	●	●	●	●	●	●	●	●	●	●				
Blue (BU)	●	●	●	●	●	●	●	●	●	●	●				
Yellow (Y)	●	●	●	●	●	●	●	●	●	●	●				
Green (G)	●	●	●	●	●	●	●	●	●	●	●				
	5/32"		5/16"				Nominal size (inch)								
							1/8" 3/16" 1/4" 3/8" 1/2"								
							Nominal size (mm)								
							3.2								

Specifications

Fluid and Applicable fitting size (Note 1)	Fluid: Air/Water					Fitting: One-touch fittings, Insert fittings, Self-align fittings, Miniature fittings								
	Fluid: Turbine oil class 1 (ISO VG32) (Note 3)					Fitting: Insert fittings								
Max. operating pressure	20°C or less	2.0	1.7	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
40°C	1.4	1.2	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
60°C	1.0	0.85	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
80°C	0.8	0.65	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
100°C	0.6	0.45	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Operating vacuum pressure (kPa) (Note 4)		-101.3												
Min. bending radius mm (Note 5)	15	23	45	55	65	90	18	27	30	55	65			
Bending value/Reference	12	17	34	42	50	70	12	15	23	42	50			
Operating temperature (Note 1)	Air/Oil: -40 to 100°C, Water: 0 to 50°C (No freezing)													
Material	Nylon 12													

- Note 1) Be sure to operate under the maximum operating pressure and operating temperature conditions using the lower specifications of either the tubing or fittings.
 Note 2) Mount an inner sleeve when using metal One-touch fittings in high-temperature environments of 60°C or more. Use self-align fittings at a temperature of 60°C or less.
 Note 3) • After long-term use, nylon materials may harden.
 • Be sure to use with static piping.
 • After removing a tube from the fitting, be sure to replace it with a brand new tube. Please refrain from reusing tubes.
 • When using an oil other than turbine oil class 1 (ISO VG32), the deterioration of nylon materials may be accelerated due to the added agents.
 Note 4) The operating vacuum pressure varies depending on the applicable fitting, so refer to the fitting specifications for details.
 Note 5) The minimum bending radius is the representative value measured as shown in the left figure.
 • Use a tube above the minimum bending radius.
 • The tubing may be bent if used under the minimum bending radius. Therefore, refer to the bending value and make sure that the tubing is not bent or flattened.
 • Please note that the bending value is not warranted because of the representative value when 2R is measured by the method in the left figure if the tubing is bent or flattened, etc.

How to Order

Model	Length per roll	Color
TS0604	20	Black (Opaque)
W	100	White (Material color)
20	100	Red (Opaque)
		Blue (Opaque)
		Yellow (Opaque)
		Green (Opaque)

Made to Order

100 m reel

Metric size and Inch size except ø16: Suffix "-X3" to the end of part number. Ex.) TS0425R-100-X3

Longer length reel

Metric size: Suffix "-X3" to the end of part number. Ex.) TS0425G-500-X3

20 m roll

Inch size: Suffix "-X4" to the end of part number. Ex.) TISA01BU-20-X4

Made to Order Availability

Part no.	Length	Model	TS0425	TS0604	TS0806	TS1075	TS1209	TISA01	TISA05	TISA07	TISA11	TISA13	Color
X3	100 m reel		○	○	○	○	○	○	○	○	○	○	Black, White, Red, Blue, Yellow, Green
	150 m reel												
	200 m reel												
X4	500 m reel		○	○									Red, Blue, Yellow, Green
	20 m roll												