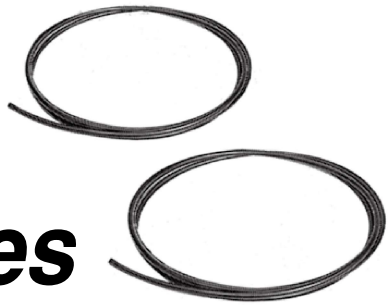
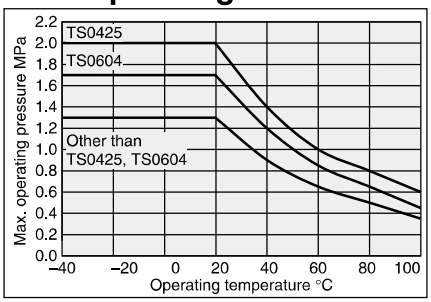
Soft Nylon Tubing
TS/TISA Series



RoHS

For general pneumatic tubing
Pliable soft nylon tubing

Max. Operating Pressure



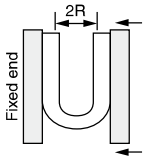
⚠ Precautions

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and pages 13 to 17 for Fittings and Tubing Precautions.

⚠ Caution

1. Compatible with water due to a change in materials. Compatible fluid types are printed on the tube body for differentiation, so please be sure to check this. Note) If using the previous TS/TISA series with "water", the tube may shrink and cause air leakage or the tube may fall out.
2. The products which changed the material are applicable for general industrial water. Please contact SMC if using other kinds of fluid.
   Surge pressure must be under the max. operating pressure. If the surge pressure exceeds the maximum operating pressure, it will result in damage to fittings and tubes.
3. 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.)

	Tubing size										
	Metric size (TS series)						Inch size (TISA series)				
Model	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)	●	●	●	●	●		●	●	●	●	●
Nominal size (inch)							1/8"	3/16"	1/4"	3/8"	1/2"
Nominal size (mm)	5/32"		5/16"				3.2				

Specifications

Fluid and Applicable fitting size Note 2) Note 3)		Fluid: Air/Water Note 1)						Fitting: One-touch fittings, Insert fittings, Self-align fittings, Miniature fittings				
		Fluid: Turbine oil class 1 (ISO VG32) Note 4)						Fitting: Insert fittings				
Max. operating pressure MPa Note 2)	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
	40°C	1.4	1.2	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
	80°C	0.8	0.65	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	0.4	0.35	0.35	0.35	0.35	0.35
Min. bending radius mm Note 5)	Min. bending radius	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 2)		Air/Oil: −40 to +100°C, Water: 0 to +50°C (No freezing)										
Material		Nylon 12										

Note 1) Refer to the "Printing/Fluid".
Note 2) Be sure to operate under the maximum operating pressure and operating temperature conditions using the lower specifications of either the tubing or fittings.
Note 3) 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 4) • 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 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.

Printing/Fluid

	Print code	Fluid
Previous	SMC TS 0604 SOFTNYLON 6 x 4	Air
NEW	● SMC TS 0604 SOFTNYLON 6 x 4	Air/Water

How to Order

TS0604 **W** − **20**

Tubing model

Length per roll

Symbol	Length
20	20 m roll
100	100 m roll (Black and white only)

Color

Symbol	Color
B	Black (Opaque)
W	White (Material color)
R	Red (Opaque)
BU	Blue (Opaque)
Y	Yellow (Opaque)
G	Green (Opaque)

Made to Order

(Please contact SMC for specifications in detail, dimensions, delivery and specifications other than those mentioned above.)

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.	Model / Length	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			○								
	500 m reel	○	○									
X4	20 m roll						○	○	○	○	○	Red, Blue, Yellow, Green

SMC