

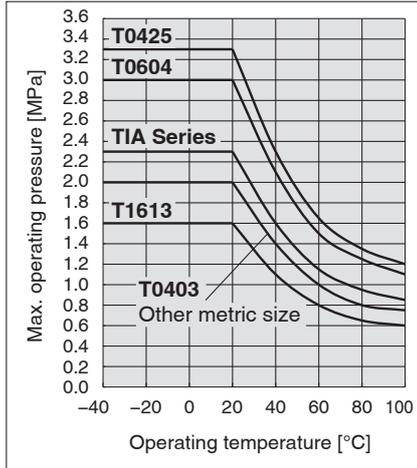
Nylon Tubing T/TIA Series

RoHS

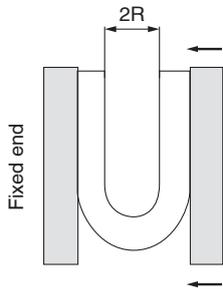


For general pneumatic tubing, Nylon tubing

Max. Operating Pressure



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 %.

⚠ Precautions

Be sure to read this before handling the products.

⚠ Caution

- Applicable for general industrial water. Please consult with 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.
- 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.

Model

● — 20 m roll □ — 100 m roll (T1613 is reel.)

Model	Tubing size												
	Metric size (T series)						Inch size (TIA series)						
	T0425	T0403	T0604	T0645	T0806	T1075	T1209	T1613	TIA01	TIA05	TIA07	TIA11	TIA13
Tubing O.D. [mm]	4	4	6	6	8	10	12	16	3.18	4.76	6.35	9.53	12.7
Tubing I.D. [mm]	2.5	3	4	4.5	6	7.5	9	13	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	Fluid: Air/Water												Fitting: One-touch fittings, Insert fittings, Self-align fittings, Miniature fittings				
	Fluid: Turbine oil class 1 (ISO VG32)												Fitting: Insert fittings				
Max. operating pressure [MPa]	20 °C or less	3.3	2.0	3.0	2.0	2.0	2.0	2.0	1.6	2.3	2.3	2.3	2.3	2.3			
	40 °C	2.3	1.4	2.1	1.4	1.4	1.4	1.4	1.1	1.6	1.6	1.6	1.6	1.6			
	60 °C	1.65	1.0	1.5	1.0	1.0	1.0	1.0	0.8	1.15	1.15	1.15	1.15	1.15			
	80 °C	1.35	0.8	1.25	0.8	0.8	0.8	0.8	0.65	0.95	0.95	0.95	0.95	0.95			
	100 °C	1.2	0.75	1.1	0.75	0.75	0.75	0.75	0.6	0.85	0.85	0.85	0.85	0.85			
Min. bending radius [mm]	Min. bending radius	13	20	24	30	40	50	60	100	15	25	30	50	65			
	Bending value (Reference)	10	15	18	23	30	40	45	75	12	20	23	40	48			
Operating temperature	Air/Oil: -40 to +100 °C, Water: 0 to +70 °C (No freezing)																
Material	Nylon 12																

- Note 1) Be sure to operate under the maximum operating pressure conditions using the lower maximum operating specification 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 minimum bending radius is the representative value measured as shown in the left figure.
• Use a tube above the recommended minimum bending radius.
• The tubing may be bent if used under the recommended minimum bending radius. Therefore, refer to the refraction value and make sure that the tubing is not bent or flattened.
• Please note that the refraction value is not warranted because of the value when 2R is measured by the method in the left figure if the tubing is bent or flattened, etc.

How to Order

T0425 B - 20

Tubing model

Colour

Length per roll

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

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

T/TIA Series



EMC-T/TIA-01A-UK

T/TIA Series

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 $\text{O} 16$: Suffix "-X3" to the end of part number. Ex.) T0425R-100-X3

Longer length reel Metric size: Suffix "-X3" to the end of part number. Ex.) T0425G-500-X3

20 m roll Inch size: Suffix "-X4" to the end of part number. Ex.) TIA01BU-20-X4

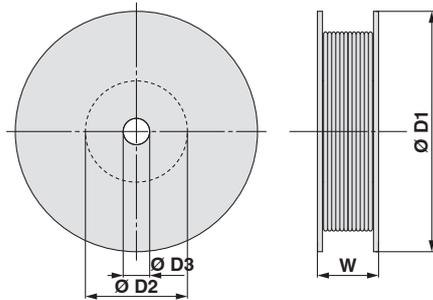
Reinforced corrugated cardboard specification longer length reel $\text{O} 6$, Black and White only: Suffix "-X64" to the end of part number. Ex.) T0604B-500-X64

Made to Order Availability

Part no.	Length	Model	T0425 *	T0604 *	T0806 *	T1075 *	T1209 *	TIA01 *	TIA05 *	TIA07 *	TIA11 *	TIA13 *	Colour
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
X64	250 m reel			○									Black, White
	300 m reel				○								Black
	500 m reel			○									Black, White

Reinforced corrugated cardboard specification: Longer length reel/-X64

Dimensions



Dimensions

Model	Ø D1	Ø D2	Ø D3	W	Weight (kg)	Colour
T0604□-250-X64	475	200	52	120	5.1	Black,
T0604□-500-X64	475	200	52	200	9.4	White
T0806B-300-X64	475	200	52	200	8.1	Black

Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of “Caution,” “Warning” or “Danger.” They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC) ¹⁾, and other safety regulations.

Danger:

Danger indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

Warning:

Warning indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

Caution:

Caution indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

- 1) ISO 4414: Pneumatic fluid power – General rules and safety requirements for systems and their components.
- ISO 4413: Hydraulic fluid power – General rules and safety requirements for systems and their components.
- IEC 60204-1: Safety of machinery – Electrical equipment of machines. (Part 1: General requirements)
- ISO 10218-1: Robots and robotic devices - Safety requirements for industrial robots - Part 1: Robots.
- etc.

Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalogue information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery/equipment until safety is confirmed.

1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. Our products cannot be used beyond their specifications.

Our products are not developed, designed, and manufactured to be used under the following conditions or environments.

Use under such conditions or environments is not covered.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Use for nuclear power, railways, aviation, space equipment, ships, vehicles, military application, equipment affecting human life, body, and property, fuel equipment, entertainment equipment, emergency shut-off circuits, press clutches, brake circuits, safety equipment, etc., and use for applications that do not conform to standard specifications such as catalogues and operation manuals.
3. Use for interlock circuits, except for use with double interlock such as installing a mechanical protection function in case of failure. Please periodically inspect the product to confirm that the product is operating properly.

Caution

We develop, design, and manufacture our products to be used for automatic control equipment, and provide them for peaceful use in manufacturing industries.

Use in non-manufacturing industries is not covered.

Products we manufacture and sell cannot be used for the purpose of transactions or certification specified in the Measurement Act.

The new Measurement Act prohibits use of any unit other than SI units in Japan.

Limited warranty and Disclaimer/Compliance Requirements

The product used is subject to the following “Limited warranty and Disclaimer” and “Compliance Requirements”. Read and accept them before using the product.

Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first. ²⁾ Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided. This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalogue for the particular products.
- 2) Vacuum pads are excluded from this 1 year warranty. A vacuum pad is a consumable part, so it is warranted for a year after it is delivered. Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

Safety Instructions

Be sure to read “Handling Precautions for SMC Products” (M-E03-3) before using.

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