

# Wear Resistant Flat Tubing

## Multi-core, Multi-color Specification

# TUZ Series



**Compact piping possible**  
**6 color variations**

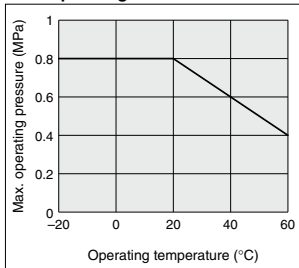
**Abrasion: Approx. 1/3**

\* Compared with SMC polyurethane tubing TU series (Refer to the table below)

Description	Maximum abrasion (mm) After 10 million cycles
<b>Wear resistant tubing TUZ series</b>	<b>0.16</b>
Polyurethane tubing TU series	0.46

(Note) Comparison based on the SMC's specific testing condition

### Max. Operating Pressure



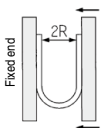
## Precautions

**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

1. Please consult with SMC if using for any fluids other than air.
2. As a result of product design characteristics, there are cases of very slight leakage.

### How to measure the minimum bending radius



Bend the tube into a U shape at a temperature of 20°C. Fix one end and bend the loop gradually. Measure 2R when the tube breaks or is crushed.

### Specifications

Model		TUZ0425	TUZ0604	TUZ0805	TUZ1065	TUZ1208
Tubing O.D. (mm)		4	6	8	10	12
Tubing I.D. (mm)		2.5	4	5	6.5	8
Black (B)		●	●	●	●	●
White (W)		●	●	●	●	●
Red (R)		●	●	●	●	●
Blue (BU)		●	●	●	●	●
Yellow (Y)		●	●	●	●	●
Green (G)		●	●	●	●	●
Number of cores	2 cores	X169 (Roll)				
	3 cores	X170 (Roll)				
	4 cores	X171 (Roll)				
	5 cores	X172 (Roll)				
	6 cores	X204 (Roll)				
Fluid <sup>Note 1)</sup>		Air				
Max. operating pressure (MPa)	20°C	0.8				
	40°C	0.6				
	60°C	0.4				
Applicable fittings		One-touch fitting, Insert fitting, Miniature fitting (Hose nipple type)				
Operating vacuum pressure <sup>Note 2)</sup> (kPa)		-101.3				
Min. bending radius <sup>Note 3)</sup> (mm)		10	15	20	27	35
Operating temperature		-20 to 60°C				
Material		Special polyurethane				

Note 1) Abnormal temperature rise caused by adiabatic compression may result in the tube bursting.

Note 2) As the operating vacuum pressure varies depending on the applicable fittings, be sure to check the fitting specifications beforehand.

Note 3) The minimum bending radius means the value measured by the method shown in the figure on the left below at the temperature of 20°C when the tube is bent. The minimum bending radius assumes static piping. If the tube is used in a moving part, provide extra length to the tube.

Check the bending radius recommended by the flexible protection tube manufacturer for sure if the tube is used in the flexible protection tube.

How to Order

Roll

Please contact SMC for delivery.

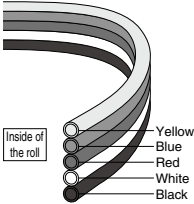
Tube length per roll: **1, 2, 3, 4, 5, 10, 20** m

**TUZ 0425 - 12345 A - X172**

Tubing model

Tubing size

Symbol	O.D. x I.D.
0425	ø4 x ø2.5
0604	ø6 x ø4
0805	ø8 x ø5
1065	ø10 x ø6.5
1208	ø12 x ø8



Color<sup>\*1\*2</sup>

Symbol	Color	Symbol	Color
1	Black	4	Blue
2	White	5	Yellow
3	Red	6	Green

\*1 Colors of the example (12345)  
\*2 Not clear, but translucent due to material.

Multi-core, multi-color specification

Symbol	Number of cores
X169	2 cores
X170	3 cores
X171	4 cores
X172	5 cores
X204	6 cores

Tube length per roll [m]

Symbol	Length	Symbol	Length
A	1	E	5
B	2	F	10
C	3	G	20
D	4		

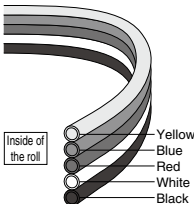
Tube length per roll: **50** m

**TUZ 0425 - 12345 H - X172**

Tubing model

Tubing size

Symbol	O.D. x I.D.
0425	ø4 x ø2.5
0604	ø6 x ø4
0805	ø8 x ø5
1065	ø10 x ø6.5
1208	ø12 x ø8



Color<sup>\*1\*2</sup>

Symbol	Color	Symbol	Color
1	Black	4	Blue
2	White	5	Yellow
3	Red	6	Green

\*1 Colors of the example (12345)  
\*2 Not clear, but translucent due to material.

Multi-core, multi-color specification

Symbol	Number of cores	Applicable tubing O.D.				
		ø4	ø6	ø8	ø10	ø12
X169	2 cores	●	●			
X170	3 cores	●	●	●		
X171	4 cores	●	●	●	●	
X172	5 cores	●	●	●	●	●
X204	6 cores	●	●	●	●	●

Tube length per roll [m]

Symbol	Length
H	50

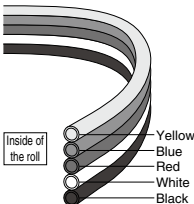
Tube length per roll: **100** m

**TUZ 0425 - 12345 J - X172**

Tubing model

Tubing size

Symbol	O.D. x I.D.
0425	ø4 x ø2.5
0604	ø6 x ø4
0805	ø8 x ø5



Color<sup>\*1\*2</sup>

Symbol	Color	Symbol	Color
1	Black	4	Blue
2	White	5	Yellow
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Multi-core, multi-color specification

Symbol	Number of cores	Applicable tubing O.D.		
		ø4	ø6	ø8
X169	2 cores	●	●	
X170	3 cores	●	●	●
X171	4 cores	●	●	●
X172	5 cores	●	●	●
X204	6 cores	●	●	●

Tube length per roll [m]

Symbol	Length
J	100



# TUZ/TIUZB Series

## Specific Product 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.

### Selection

#### Warning

##### 1. Confirm the specifications.

Products represented in this catalog are designed only for use with compressed air system applications (including vacuum). Do not use at pressure or temperature beyond the range of specifications, as this can cause damage or malfunction. (Refer to the specifications.)

##### 2. In case of using the product for medical care

This product is designed for use with compressed air system applications for medical care purposes. Do not use in transfer applications to a human living body, or in contact with human bodily fluids, body tissues.

#### Caution

##### 1. Do not use in locations where the connecting threads and tube connection will slide or rotate.

The connecting threads and tube connection will come apart under these conditions.

Use rotary type one-touch fittings (KS, KX series) in cases where sliding or rotation will occur.

##### 2. Use the tube at or above the minimum bending radius. Using below the minimum bending radius can cause breakage or flattening of the tube.

##### 3. Never use the tube for anything flammable, explosive or toxic such as gas, fuel gas, or cooling mediums, etc.

Because the contents may penetrate outward.

##### 4. Use the suitable fittings for the tube size.

### Mounting

#### Caution

##### 1. Confirm model number, size, etc. before installing.

Check if there is damage, gouge, crack, etc. on the tube.

##### 2. When the tube is connected, consider factors such as changes in the tubing length due to pressure, and allow sufficient leeway.

##### 3. Do not apply unnecessary forces such as twisting, pulling, moment loads, etc. on fittings and tube.

This will cause damage to fittings or flattening, bursting or disconnection of tube, etc.

##### 4. Mount so that tube is not damaged due to tangling.

This will cause flattening, bursting or disconnection of tube, etc.

### Piping

#### Caution

##### 1. Preparation before piping

Before piping is connected, it should be thoroughly blown out with air (flushing) or washed to remove chips, cutting oil and other debris from inside the pipe. Not allowing chips of the piping thread or the seal material to go in.

The minimum bending radius assumes static piping. If the tube is used in a moving part, provide extra length to the tube. Check the bending radius recommended by the flexible protection tube manufacturer for sure if the tube is used in the flexible protection tube.

### Air Supply

#### Warning

##### 1. Types of fluid

This product is designed for use with compressed air.

##### 2. In case of excessive condensation

Excessive condensation in compressed air may cause malfunction of pneumatic devices. Installation of an air dryer, water separator before filter is recommended.

##### 3. Drain flushing

If condensation in the drain bowl of an air filter is not emptied on a regular basis, the condensation will enter the outlet side, causing malfunction of pneumatic devices.

If the drain flushing is difficult, installation of a filter with an auto drain option is recommended.

For compressed air quality, refer to SMC's "Air Preparation Equipment Model Selection Guide."

### Operating Environment

#### Warning

##### 1. Do not use in locations having an explosive atmosphere.

##### 2. Do not operate in locations where vibration or impact occurs.

##### 3. In locations near heat sources, block off radiated heat.

### Maintenance

#### Caution

##### 1. Perform periodic inspections to check the following problems and replace the tube, if necessary.

- Cracks, gouges, wearing, corrosion
- Air leakage
- Twists or crushing of tube
- Hardening, deterioration, softening of tube

##### 2. Do not repair or patch the replaced tube or fittings for reuse.