## Flat Tubing

*Can be identified and managed by colors. Integrated type without the need to bind!*

<table>
<thead>
<tr>
<th>Series</th>
<th>Number of cores</th>
<th>Tubing color</th>
<th>Tube length per roll (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyurethane Flat Tubing/ Series TU</td>
<td>2 to 6</td>
<td>Black, White, Red, Blue, Yellow, Green, Clear, Translucent, Orange, Yellow brown</td>
<td>1, 2, 3, 4, 5, 10, 20, 50, 100</td>
</tr>
<tr>
<td>Soft Polyurethane Flat Tubing/ Series TUS</td>
<td>2 to 5</td>
<td>Black, White, Red, Blue, Yellow, Green, Clear, Translucent, Yellow brown</td>
<td>1, 2, 3, 4, 5, 10, 20</td>
</tr>
<tr>
<td>Wear Resistant Flat Tubing/ Series TUZ</td>
<td>2 to 6</td>
<td>Black, Red, Blue, Yellow, Green, White, (Milky) (white)</td>
<td>1, 2, 3, 4, 5, 10, 20, 50, 100</td>
</tr>
</tbody>
</table>

* The lengths shown in bold are also available in reel.

---

### Polyurethane/Series TU

**8 color**

- Tubing O.D.: ø2 to ø12
- Number of cores: 2 to 6 (Roll/Reel)

* Except ø2

### Soft Polyurethane/Series TUS

**8 color**

- Tubing O.D.: ø4 to ø12
- Number of cores: 2 to 5 (Roll)

### Wear Resistant/Series TUZ

**6 color**

- Tubing O.D.: ø4 to ø12
- Number of cores: 2 to 6 (Roll)
Polyurethane Flat Tubing
Multi-core, Multi-color Specification
Series TU

Compact piping possible
8 color variations

Burst Pressure Characteristics
Curve and Operating Pressure

![Burst Pressure Characteristics Curve](image)

Precautions
Be sure to read this before handling.
For Safety Instructions and Fittings &
Tubing Precautions, refer to “Handling
Precautions for SMC Products” and
the Operation Manual on SMC website,
http://www.smcworld.com

Caution
1. Please consult with SMC if using for any
fluids other than air.
2. The value of the max. operating pressure
is at a temperature of 20°C. Refer to the
burst pressure characteristics curve and
operating pressure for other temperatures.
Furthermore, abnormal temperature rise
caused by adiabatic compression may
result in the tube bursting.
3. The value of the minimum bending radius
is measured at the temperature of 20°C as
shown in the figure below.
4. 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

<table>
<thead>
<tr>
<th>Model</th>
<th>TU0212</th>
<th>TU0425</th>
<th>TU0604</th>
<th>TU0805</th>
<th>TU1065</th>
<th>TU1208</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tubing O.D. (mm)</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Tubing I.D. (mm)</td>
<td>1.2</td>
<td>2.5</td>
<td>4</td>
<td>5</td>
<td>6.5</td>
<td>8</td>
</tr>
<tr>
<td>Black (B)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White (W)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red (R)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue (BU)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yellow (Y)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green (G)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clear (C)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orange (YR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Number of cores (Note)
- 2 cores: X169 (Roll)/X200 (Reel)
- 3 cores: X170 (Roll)/X201 (Reel)
- 4 cores: X171 (Roll)/X202 (Reel)
- 5 cores: X172 (Roll)/X203 (Reel)
- 6 cores: X204 (Roll)/X207 (Reel)

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. operating pressure (at 20°C)</td>
<td>0.8 MPa</td>
</tr>
<tr>
<td>Burst pressure</td>
<td>Refer to the burst pressure characteristics curve.</td>
</tr>
<tr>
<td>Applicable fittings</td>
<td>One-touch fitting, Insert fitting, Miniature fitting</td>
</tr>
<tr>
<td>Min. bending radius (mm)</td>
<td>4</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>–20 to +60°C</td>
</tr>
<tr>
<td>Material</td>
<td>Polyurethane</td>
</tr>
</tbody>
</table>

Note) Refer to “How to Order” for the combination of tubing size and the number of cores.
How to Order

Tubing model
TU 0425

Tubing size
Symbol O.D. x I.D.
0212 ø2 x ø1.2
0425 ø4 x ø2.5
0604 ø6 x ø4
0805 ø8 x ø5
1065 ø10 x ø6.5
1208 ø12 x ø8

Color
1 Black
2 White
3 Red
4 Blue
5 Yellow
6 Green
7 Clear
8 Orange

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

Inside of the roll
Yellow
Blue
Red
White
Black

Polyurethane Flat Tubing
Multi-core, Multi-color Specification Series TU

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

Tube length per roll: 50 m

Tube length per roll: 100 m

Please contact SMC for delivery.
Series TU

How to Order

Please contact SMC for delivery.

Tubing model

Tubing size

Tube length per roll: 10, 20 m

TU 0212 — 12345 F — X203

Color

Symbol Color Symbol Color
1 Black 5 Yellow
2 White 6 Green
3 Red 7 Clear
4 Blue 8 Orange

Symbol Number of cores Applicable tubing O.D.
X200 2 cores o2 o4 o6 o8 o10 o12
X201 3 cores o2 o4 o6 o8 o10 o12
X202 4 cores o2 o4 o6 o8 o10 o12
X203 5 cores o2 o4 o6 o8 o10 o12
X207 6 cores o2 o4 o6 o8 o10 o12

Tubing length per roll [m]

Symbol Length
F 10
G 20

Tubing length per roll: 50 m

TU 0425 — 12345 H — X203

Color

Symbol Color Symbol Color
1 Black 5 Yellow
2 White 6 Green
3 Red 7 Clear
4 Blue 8 Orange

Symbol Number of cores Applicable tubing O.D.
X200 2 cores o2 o4 o6 o8 o10 o12
X201 3 cores o2 o4 o6 o8 o10 o12
X202 4 cores o2 o4 o6 o8 o10 o12
X203 5 cores o2 o4 o6 o8 o10 o12
X207 6 cores o2 o4 o6 o8 o10 o12

Tubing length per roll [m]

Symbol Length
H 50

Tubing length per roll: 100 m

TU 0425 — 12345 J — X203

Color

Symbol Color Symbol Color
1 Black 5 Yellow
2 White 6 Green
3 Red 7 Clear
4 Blue 8 Orange

Symbol Number of cores Applicable tubing O.D.
X200 2 cores o2 o4 o6 o8 o10 o12
X201 3 cores o2 o4 o6 o8 o10 o12
X202 4 cores o2 o4 o6 o8 o10 o12
X203 5 cores o2 o4 o6 o8 o10 o12
X207 6 cores o2 o4 o6 o8 o10 o12

Tubing length per roll [m]

Symbol Length
J 100

Tube reel dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>W (mm)</th>
<th>Tube length per roll (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>X200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2 cores)</td>
<td>TU0212</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>TU0425</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>TU0604</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>TU0805</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>TU1065</td>
<td>156</td>
</tr>
<tr>
<td></td>
<td>TU1208</td>
<td>156</td>
</tr>
<tr>
<td>X201</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3 cores)</td>
<td>TU0212</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>TU0425</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>TU0604</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>TU0805</td>
<td>156</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>W (mm)</th>
<th>Tube length per roll (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>X202</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4 cores)</td>
<td>TU0212</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>TU0425</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>TU0604</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>TU0805</td>
<td>156</td>
</tr>
<tr>
<td>X203</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(5 cores)</td>
<td>TU0212</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>TU0425</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>TU0604</td>
<td>156</td>
</tr>
<tr>
<td>X207</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(6 cores)</td>
<td>TU0212</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>TU0425</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>TU0604</td>
<td>156</td>
</tr>
</tbody>
</table>
Soft Polyurethane Flat Tubing
Multi-core, Multi-color Specification

Series TUS

Compact piping possible
8 color variations

TUS related accessories
Inner sleeve
Series TJ

Reinforces soft polyurethane tubing. Insert an inner sleeve into soft polyurethane tubing when used with a One-touch fitting.

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Applicable tubing model</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>TJ-0425</td>
<td>TUS0425</td>
<td>18</td>
</tr>
<tr>
<td>TJ-0604</td>
<td>TUS0604</td>
<td>19</td>
</tr>
<tr>
<td>TJ-0805</td>
<td>TUS0805</td>
<td>20.5</td>
</tr>
<tr>
<td>TJ-1065</td>
<td>TUS1065</td>
<td>23</td>
</tr>
<tr>
<td>TJ-1208</td>
<td>TUS1208</td>
<td>24</td>
</tr>
</tbody>
</table>

How to Order

Please contact SMC for delivery.

Precautions

Be sure to read this before handling.
For Safety Instructions and Fittings & Tubing Precautions, refer to “Handling Precautions for SMC Products” and the Operation Manual on SMC website, http://www.smcworld.com

Caution
1. The value of the max. operating pressure is at a temperature of 20°C. Refer to the burst pressure characteristics curve and operating pressure for other temperatures. Furthermore, abnormal temperature rise caused by adiabatic compression may result in the tube bursting.
2. The value of the minimum bending radius is measured at the temperature of 20°C as shown in the figure on the upper right.
3. Use inner sleeve, taking the removing force into consideration when used with One-touch fittings.
4. As a result of product design characteristics, there are cases of very slight leakage.

Specifications

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Color</th>
<th>Symbol</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>X169</td>
<td>Black</td>
<td>X170</td>
<td>White</td>
</tr>
<tr>
<td>X171</td>
<td>Red</td>
<td>X172</td>
<td>Blue</td>
</tr>
<tr>
<td>X173</td>
<td>Yellow</td>
<td>X174</td>
<td>Green</td>
</tr>
<tr>
<td>X175</td>
<td>Translucent</td>
<td>X176</td>
<td>YB</td>
</tr>
</tbody>
</table>

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.

Note 2) Always use inner sleeve (Series TJ) in safety circuit or critical area.

Burst Pressure Characteristics Curve and Operating Pressure

How to Order

TUS 0425-12345 A X172

Please contact SMC for delivery.

Multi-core, multi-color specification

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Number of cores</th>
</tr>
</thead>
<tbody>
<tr>
<td>X169</td>
<td>2 cores</td>
</tr>
<tr>
<td>X170</td>
<td>3 cores</td>
</tr>
<tr>
<td>X171</td>
<td>4 cores</td>
</tr>
<tr>
<td>X172</td>
<td>5 cores</td>
</tr>
</tbody>
</table>

Tube length per roll [m]

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1</td>
</tr>
<tr>
<td>B</td>
<td>2</td>
</tr>
<tr>
<td>C</td>
<td>3</td>
</tr>
<tr>
<td>D</td>
<td>4</td>
</tr>
<tr>
<td>E</td>
<td>5</td>
</tr>
<tr>
<td>F</td>
<td>10</td>
</tr>
<tr>
<td>G</td>
<td>20</td>
</tr>
</tbody>
</table>
Wear Resistant Flat Tubing
Multi-core, Multi-color Specification

Series TUZ

Compact piping possible
6 color variations
Abras: Approx. 1/3
* Compared with SMC polyurethane tubing TU series (Refer to the table below)

<table>
<thead>
<tr>
<th>Description</th>
<th>Maximum abrasion (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wear resistant tubing Series TUZ</td>
<td>0.16</td>
</tr>
<tr>
<td>Polyurethane tubing Series TU</td>
<td>0.46</td>
</tr>
</tbody>
</table>

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

Burst Pressure Characteristics
Curve and Operating Pressure

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>TUZ0425</th>
<th>TUZ0604</th>
<th>TUZ0805</th>
<th>TUZ1065</th>
<th>TUZ1208</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tubing O.D. (mm)</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Tubing I.D. (mm)</td>
<td>2.5</td>
<td>4</td>
<td>5</td>
<td>6.5</td>
<td>8</td>
</tr>
<tr>
<td>Black (B)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White (W)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red (R)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue (BU)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yellow (Y)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green (G)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of cores</td>
<td>2 cores</td>
<td>X169 (Roll)</td>
<td>3 cores</td>
<td>X170 (Roll)</td>
<td>4 cores</td>
</tr>
<tr>
<td>Fluid</td>
<td>Air</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. operating pressure</td>
<td>20°C</td>
<td>0.8 MPa</td>
<td>60°C</td>
<td>0.4 MPa</td>
<td></td>
</tr>
<tr>
<td>Burst pressure</td>
<td>Refer to the burst pressure characteristics curve.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applicable fittings</td>
<td>One-touch fitting, Insert fitting, Hose nipple</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min. bending radius</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>27</td>
<td>35</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>–20 to +60°C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material</td>
<td>Special polyurethane</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note) 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.
In addition, refer to the WEB catalog or the Best Pneumatics No. 6 for abrasion.

Precautions

Be sure to read this before handling.
For Safety Instructions and Fittings & Tubing Precautions, refer to “Handling Precautions for SMC Products” and the Operation Manual on SMC website, http://www.smcworld.com

Caution
1. Please consult with SMC if using for any fluids other than air.
2. The value of the max. operating pressure is at a temperature of 20°C. Refer to the burst pressure characteristics curve and operating pressure for other temperatures. Furthermore, abnormal temperature rise caused by adiabatic compression may result in the tube bursting.
3. 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.
How to Order

Roll

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

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

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

TUZ 0425 - 12345 A - X172

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
A 1
B 2
C 3
D 4
E 5
F 10
G 20
H 50
J 100

Tube length per roll: 50 m

TUZ 0425 - 12345 H - X172

Multi-core, multi-color specification

Symbol Number of cores
Applicable tubing O.D.
X169 ø4
X170 ø6
X171 ø8
X172 ø10
X204 ø12

Tube length per roll [m]
Symbol Length
H 50

Tube length per roll: 100 m

TUZ 0425 - 12345 J - X172

Multi-core, multi-color specification

Symbol Number of cores
Applicable tubing O.D.
X169 ø4
X170 ø6
X171 ø8
X172 ø10
X204 ø12

Tube length per roll [m]
Symbol Length
J 100

Please contact SMC for delivery.

Wear Resistant Flat Tubing
Multi-core, Multi-color Specification
Series TUZ

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