

# Flat Tubing



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

Series	Number of cores	Tubing colour										Tube length per roll [m]
		Black	White	Red	Blue	Yellow	Green	Clear	Translucent	Orange	Yellow brown	
Polyurethane Flat Tubing/ <b>Series TU</b>	2 to 6	●	●	●	●	●	●	●		●		1, 2, 3, 4, 5 <b>10, 20, 50, 100</b>
Soft Polyurethane Flat Tubing/ <b>Series TUS</b>	2 to 5	●	●	●	●	●	●		●		●	1, 2, 3, 4, 5 10, 20
Wear Resistant Flat Tubing/ <b>Series TUZ</b>	2 to 6	●	● (Milky white)	●	●	●	●					1, 2, 3, 4, 5 10, 20, 50, 100

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

## Polyurethane/Series TU

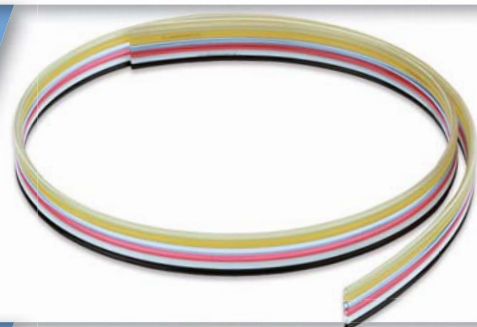
Page 1

8 colour



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

\* Except ø2



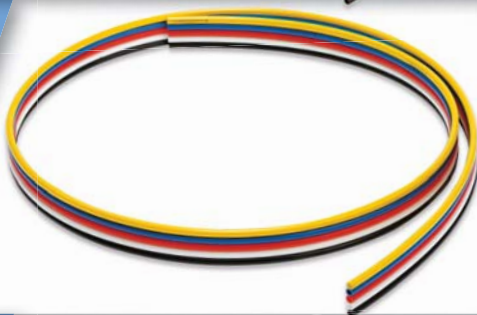
## Soft Polyurethane/Series TUS

Page 4

8 colour



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



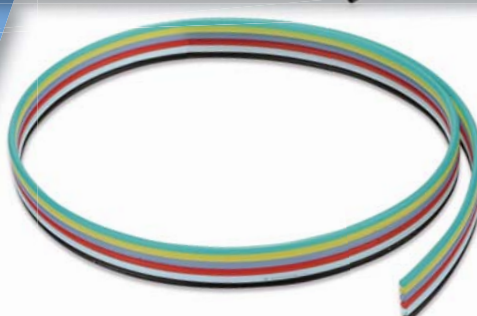
## Wear Resistant/Series TUZ

Page 5

6 colour



- Tubing O.D.: ø4 to ø12
- Number of cores: 2 to 6 (Roll)



# Polyurethane Flat Tubing

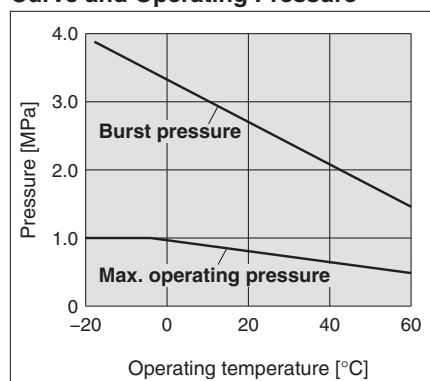
## Multi-core, Multi-colour Specification

# Series TU



### Compact piping possible 8 colour variations

#### Burst Pressure Characteristics Curve and Operating Pressure



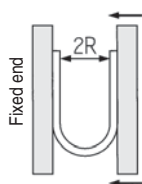
### Precautions

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

Model	TU0212	TU0425	TU0604	TU0805	TU1065	TU1208
Tubing O.D. [mm]	2	4	6	8	10	12
Tubing I.D. [mm]	1.2	2.5	4	5	6.5	8
Black (B)	●	●	●	●	●	●
White (W)	●	●	●	●	●	●
Red (R)	●	●	●	●	●	●
Blue (BU)	●	●	●	●	●	●
Yellow (Y)	●	●	●	●	●	●
Green (G)	●	●	●	●	●	●
Clear (C)	●	●	●	●	●	●
Orange (YR)		●	●	●	●	●
Number of cores <small>(Note)</small>	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)				
Fluid	Air					
Max. operating pressure (at 20°C)	0.8 MPa					
Burst pressure	Refer to the burst pressure characteristics curve.					
Applicable fittings	One-touch fitting, Insert fitting, Miniature fitting					
Min. bending radius [mm]	4	10	15	20	27	35
Operating temperature	-20 to +60°C					
Material	Polyurethane					

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

How to Order

**Roll**

Please contact SMC for delivery.

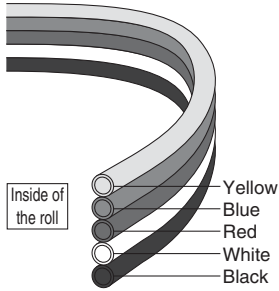
Tube length per roll: **1, 2, 3, 4, 5, 10, 20** m

**TU 0425 - 12345 A - X172**

Tubing model

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



Colour\*1

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

\*1 Colours of the example (12345)  
\*2 Except TU0212

Multi-core, multi-colour 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		

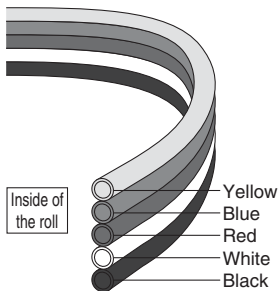
Tube length per roll: **50** m

**TU 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



Colour\*1

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

\*1 Colours of the example (12345)

Multi-core, multi-colour 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

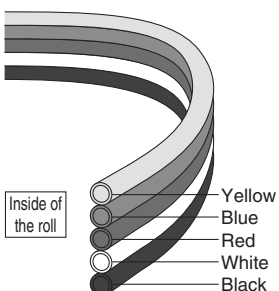
Tube length per roll: **100** m

**TU 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



Colour\*1

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

\*1 Colours of the example (12345)

Multi-core, multi-colour 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

# Series TU

## How to Order

Reel

Please contact SMC for delivery.

Tube length per roll: **10, 20** m

**TU 0212 - 12345 F - X203**

**Colour\*<sup>1</sup>**

Symbol	Colour	Symbol	Colour
1	Black	5	Yellow
2	White	6	Green
3	Red	7	Clear
4	Blue	8	Orange* <sup>2</sup>

\*1 Colours of the example (12345)  
\*2 Except TU0212

**Multi-core, multi-colour specification**

Symbol	Number of cores	Applicable tubing O.D.					
		ø2	ø4	ø6	ø8	ø10	ø12
X200	2 cores	●	●	●	●	●	●
X201	3 cores	●	●	●	●	●	●
X202	4 cores	●	●	●	●	●	●
X203	5 cores	●	●	●	●	●	●
X207	6 cores	●	●	●	●	●	●

**Tube length per roll [m]**

Symbol	Length
F	10
G	20

**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

Tube length per roll: **50** m

**TU 0425 - 12345 H - X203**

**Colour\*<sup>1</sup>**

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

\*1 Colours of the example (12345)

**Multi-core, multi-colour specification**

Symbol	Number of cores	Applicable tubing O.D.		
		ø4	ø6	ø8
X200	2 cores	●	●	●
X201	3 cores	●	●	●
X202	4 cores	●	●	●
X203	5 cores	●	●	●
X207	6 cores	●	●	●

**Tube length per roll [m]**

Symbol	Length
H	50

**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

Tube length per roll: **100** m

**TU 0425 - 12345 J - X203**

**Colour\*<sup>1</sup>**

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

\*1 Colours of the example (12345)

**Multi-core, multi-colour specification**

Symbol	Number of cores	Applicable tubing O.D.		
		ø4	ø6	ø8
X200	2 cores	●	●	●
X201	3 cores	●	●	●
X202	4 cores	●	●	●
X203	5 cores	●	●	●
X207	6 cores	●	●	●

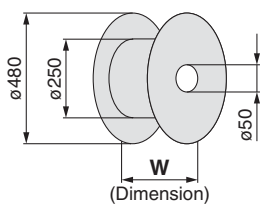
**Tube length per roll [m]**

Symbol	Length
J	100

**Tubing size**

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

### Tube reel dimensions



Model	W [mm]	Tube length per roll [m]			
		10	20	50	100
X200 (2 cores)	TU0212	51	51	—	—
	TU0425	51	51	51	51
	TU0604	51	51	81	156
	TU0805	81	81	156	156
	TU1065	156	156	156	—
	TU1208	156	156	—	—
X201 (3 cores)	TU0212	51	51	—	—
	TU0425	51	51	51	51
	TU0604	81	81	156	156
X207 (6 cores)	TU0212	51	51	—	—
	TU0425	51	51	81	156
	TU0604	156	156	156	—

Model	W [mm]	Tube length per roll [m]			
		10	20	50	100
X202 (4 cores)	TU0212	51	51	—	—
	TU0425	51	51	81	81
	TU0604	81	81	156	205
	TU0805	156	156	—	—
X203 (5 cores)	TU0212	51	51	—	—
	TU0425	51	51	81	156
	TU0604	156	156	156	—
X207 (6 cores)	TU0212	51	51	—	—
	TU0425	51	51	81	156
	TU0604	156	156	156	—

# Soft Polyurethane Flat Tubing

## Multi-core, Multi-colour Specification

# Series TUS



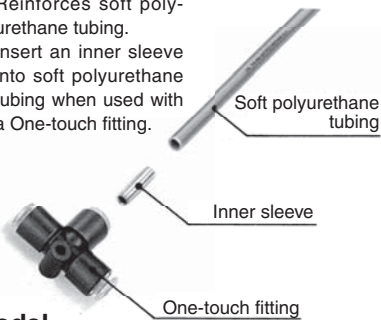
Compact piping possible  
8 colour variations

### 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.



#### Model

Model	Applicable tubing model	Length
TJ-0425	TUS0425	18
TJ-0604	TUS0604	19
TJ-0805	TUS0805	20.5
TJ-1065	TUS1065	23
TJ-1208	TUS1208	24

#### Specifications

Material	C2700T (Electroless nickel plated)
Wall thickness	0.2 mm

### ⚠ 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

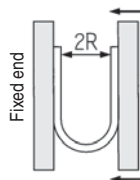
- The value of the max. operating pressure is at a temperature of 20°C. Refer to the burst pressure characteristics curve and operating pressure for other temperatures. Furthermore, abnormal temperature rise caused by adiabatic compression may result in the tube bursting.
- The value of the minimum bending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

#### Specifications

Model	TUS0425	TUS0604	TUS0805	TUS1065	TUS1208	
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)	●	●	●	●	●	
Translucent (N)	●	●	●	●	●	
Yellow brown (YB)	●	●	●	●	●	
Number of cores	2 cores	X169 (Roll)				
	3 cores	X170 (Roll)				
	4 cores	X171 (Roll)				
	5 cores	X172 (Roll)				
Fluid	Air					
Max. operating pressure (at 20°C)	0.6 MPa					
Burst pressure	Refer to the burst pressure characteristics curve.					
Applicable fittings	One-touch fitting <sup>Note 2)</sup> , Insert fitting, Hose nipple					
Min. bending radius <sup>Note 1)</sup> [mm]	8	15	15	22	29	
Operating temperature	-20 to +60°C					
Material	Polyurethane					
Tube drawing strength (N) (Using One-touch fitting)	Without inner sleeve	15	60	60	85	110
	With inner sleeve	80	230	250	300	480

Note 1) Min. bending radius is measured as shown in the figure below.

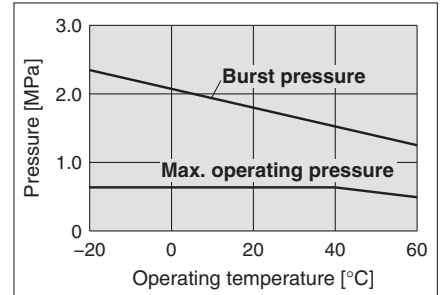
#### How to measure the minimum bending radius



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

Please contact SMC for delivery.

**TUS 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

• Multi-core, multi-colour specification

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

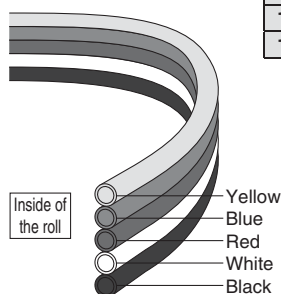
• Colour\*1

Symbol	Colour	Symbol	Colour
1	Black	5	Yellow
2	White	6	Green
3	Red	7	Translucent*2
4	Blue	8	Yellow brown

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

• Tube length per roll [m]

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



# Wear Resistant Flat Tubing Multi-core, Multi-colour Specification Series TUZ



Compact piping possible  
6 colour variations

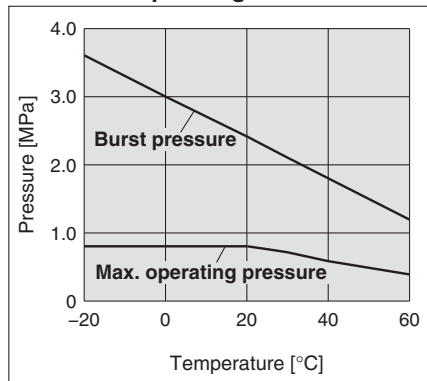
**Abrasion: Approx. 1/3**

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

Description	Maximum abrasion [mm]
	After 10 million cycles
<b>Wear resistant tubing Series TUZ</b>	<b>0.16</b>
Polyurethane tubing Series TU	0.46

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

## Burst Pressure Characteristics Curve and Operating Pressure



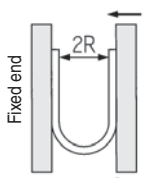
## ⚠ Precautions

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.

## 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	Air				
Max. operating pressure	20°C	0.8 MPa			
	60°C	0.4 MPa			
Burst pressure	Refer to the burst pressure characteristics curve.				
Applicable fittings	One-touch fitting, Insert fitting, Hose nipple				
Min. bending radius <sup>Note)</sup> [mm]	10	15	20	27	35
Operating temperature	-20 to +60°C				
Material	Special polyurethane				

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 **general catalogue Series TUZ** in our website <http://www.smc.eu>

How to Order

Please contact SMC for delivery.

Roll

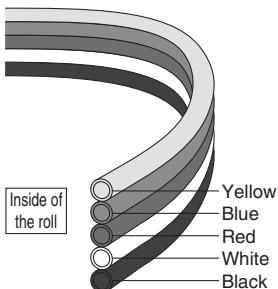
Tube length per roll: **1, 2, 3, 4, 5, 10, 20** m

**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



Colour\*1\*2

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

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

Multi-core, multi-colour 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		

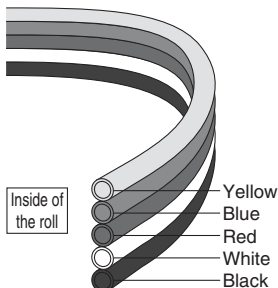
Tube length per roll: **50** m

**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



Colour\*1\*2

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

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

Multi-core, multi-colour 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

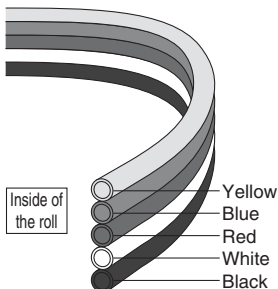
Tube length per roll: **100** m

**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



Colour\*1\*2

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

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

Multi-core, multi-colour 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



### SMC Corporation (Europe)

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<b>Czech Republic</b>	☎ +420 541424611	www.smc.cz	office@smc.cz	<b>Portugal</b>	☎ +351 226166570	www.smc.eu	postpt@smc.smces.es
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