

**“Going to
Great
Lengths”
with**



**Polyurethane
Tubing**



Polyurethane Tubing Series TIUB & TU

SMC Offers a Rainbow of Tubing Types, Colors, Sizes and Lengths

Polyurethane has 8 Quick Ship colors, equalling 336 part numbers, stocked on the shelf and ready to ship in all available sizes and lengths. There are 21 additional standard colors to suit special needs. SMC offers 11 additional tubing types and materials to cover nearly any application. See the product catalogs referenced below.

**Consult your SMC representative for any special color or length requirements, subject to minimum order quantity.*

SMC's Quick Ship Program - "get what you need when you need it"

SMC is committed to satisfying customer needs by offering a wide range of colors, sizes and lengths in both inch and metric configurations. The 8 most commonly used colors are stocked on the shelf and ready to ship in all available sizes and lengths.

SMC Polyurethane Tubing Stands the Test of Time

SMC uses Polyether type resin, the highest quality available, to insure the longest possible tube life. There are two resins that are generally used to make Polyurethane, Polyether and Polyester. SMC has chosen Polyether resin because of its immunity to hydrolysis.

hy·drol·y·sis [hīdróləssiss] *noun*
reaction with water: a chemical reaction in which a compound reacts with water, causing decomposition and the production of two or more other compounds, for example, the conversion of starch to glucose

SMC Offers the Highest Dimensional Accuracy

SMC's high quality manufacturing integrity assures that connection leaks are not due to tubing dimension irregularities.

- ✓ Continuous laser inspection of OD during production
- ✓ Continuous monitoring of wall thickness

Other Standard SMC Tubing Products:

Catalog N500

Series TU & TIUB	Polyurethane Tubing
Series TUS	Soft Polyurethane Tubing
Series TCU	Polyurethane Coiled Tubing
Series TFU	Flat Polyurethane Tubing
Series T & TIA	Nylon Tubing
Series TS & TISA	Soft Nylon Tubing
Series TIRS & TRS	Flame Resistant Soft Nylon Tubing
Series TRB	Flame Resistant Layer Tubing
Series TA	Anti-Static Tubing

Catalog N501

Series TUH	Hard Polyurethane Tubing
Catalog ES50-17	
Series TPH & TPS	Polyolefin Tubing
Catalog ES70-17	
Series TL & TIL	High Purity Fluoropolymer

SMC Goes To Great Lengths

- ✓ Standard stocked lengths at 66ft, 100ft, 500ft, 1000ft, and 1640ft.
- ✓ Other lengths available based on minimum order quantity

SMC Tubing Accessories

- ✓ TK-1 Tube Cutter (Tubing 13mm or less)
- ✓ TK-2 Tube Cutter (Tubing 18mm or less)
- ✓ TK-3 Tube Cutter (Low Cost)
- ✓ TG-1 Tube Release Tool (ø4, ø6mm tube)
- ✓ TG-2 Tube Release Tool (ø1/8", ø1/4" tube)



SMC Offers a Rainbow of "Standard" color choices

TIUB 05 BU 33

Polyurethane Tubing

Size

Symbol	Tube size
01	1/8"
05	3/16"
07	1/4"
11	3/8"
13	1/2"

Color indication

Symbol	Color
01	Black
05	Blue
07	Clear
11	Green
13	Red
15	White
17	Yellow
19	Orange

See Color Chart Below.
For Non-Quick Ship Colors add "U" to the end of the part number.

Length per roll

Symbol	Roll size
20	66 ft.
33	100 ft.
153	500 ft.
305	1000 ft.
500U†	1640 ft.

† 1/8", 3/16", 1/4"
Longer lengths available upon request.

TU 0425 BU 20

Polyurethane Tubing

Size

Symbol	Tube size
0425	4mm (5/32")
0604	6mm
0805	8mm (5/16")
1065	10mm
1208	12mm

Color indication

Symbol	Color
01	Black
05	Blue
07	Clear
11	Green
13	Red
15	White
17	Yellow
19	Orange

See Color Chart Below.
For Non-Quick Ship Colors add "U" to the end of the part number.

Length per roll

Symbol	Roll size
20	20m
33*	100 ft.
100	100m
153*	500 ft.
305*	1000 ft.
500†	500m

† 4mm, 6mm, 8mm
* Standard for 4mm (5/32") & 8mm (5/16") tube size.
Longer lengths available upon request.

	Color	Tube Sample
B	Black	
BU	Blue	
C	Clear	
G	Green	
R	Red	
W	White	
Y	Yellow	
YR	Orange	
BU1	Blue (solid)	
BU2	TR Blue	
BU3	Med. Blue	
BR1	Brown (solid)	
G1	Green (solid)	
G2	TR Green	
G3	Neon Green	

	Color	Tube Sample
G4	Dark Green	
GR1	Gray (solid)	
GR2	Lt. Gray (solid)	
P1	Neon Pink	
PU1	Purple (solid)	
PU2	TR Purple	
R1	Red (solid)	
R2	TR Red	
S1	Silver	
Y1	Yellow (solid)	
Y2	TR Yellow	
Y3	Neon Yellow	
YR1	TR Orange	
YR2	Neon Orange	

Note: Quick ship colors include: Black, Blue, Clear, Green, Red, White, Yellow and Orange.

"Going to Great Lengths" with SMC Tubing Stands

SMC is always searching for ways to improve customer service. To this end, SMC offers a simple way to organize and dispense tubing with SMC Tubing Stands.

Easy Access

Eliminate tangles that occur when tube reels are not properly dispensed. Reduce bending over during machine set up.

Quick Visual of Inventory

Available inventory can easily be seen prior to starting a job.

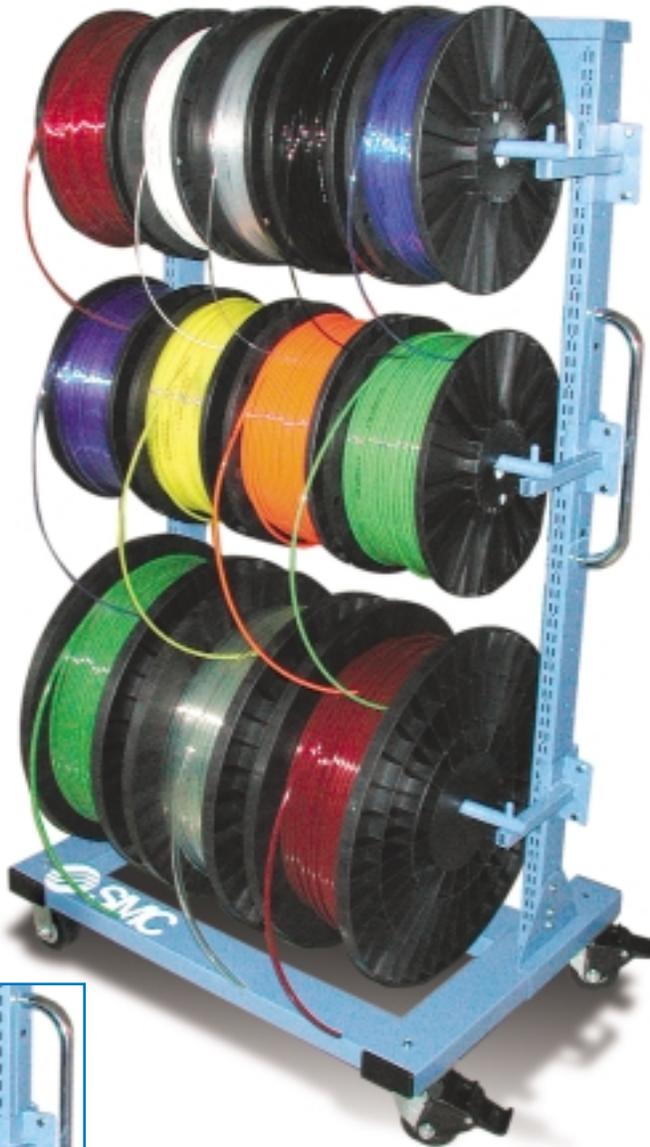
High Quality Construction

The tube stands are made of quality materials designed for industrial applications.

Easy to Move

Four wheels, two with locks, are standard and allow tubing stands to be placed in the most effective location on the shop floor.

Contact your Sales Representative about SMC's Fitting Cabinet Program



Dimensions: 37 1/4" w x 27 9/16" d x 68 11/16" h
TB-3VS Vertical Stand

Designed for high capacity and reel size flexibility this stand comes with two cross bars. A third cross bar can be ordered separately (TB-3CB)

Packaging Design

Series TIUB - Tube OD Inch Size

Length	1/8"	3/16"	1/4"	3/8"	1/2"
20m	Bag	Bag	Bag	Bag	Bag
33m	Bag	Bag	Bag	Bag	Bag
100m	—	—	—	—	—
153m	Bag	Bag	Bag	Reel	Reel
305m	Reel	Reel	Reel	Reel	Reel
500m	Reel	Reel	Reel	—	—

Series TU - Tube OD Metric Size

4mm (5/32")	6mm	8mm(5/16")	10mm	12mm
Bag	Bag	Bag	Bag	Bag
Bag	—	Bag	—	—
Bag	Bag	Bag	Box	Box
Bag	—	Box	—	—
Reel	—	Reel	—	—
Reel	Reel	Reel	—	—

Polyurethane Tubing Chemical Resistance

Category	Concentration %	Test Temperature	
		23°C	60°C
Inorganic Base			
Caustic soda	10	○	-
Caustic soda	50	△	-
Aqueous ammonia	100	○	△
Inorganic Acid			
Hydrochloric acid	10	△	X
Hydrochloric acid	High	X	-
Nitric acid	50	X	-
Phosphoric acid	85	X	X
Sulfuric acid	10	△	X
Sulfuric acid	50	X	-
Inorganic Compound			
Hydrogen sulfide	Low	○	△
Chlorine	100	X	-
Sulfur dioxide	Low	○	△
Hydrogen peroxide	30	△	X
Carbon disulfide	100	○	△
Sulfur	100	⊙	○
Water		○	○
Organic Base			
Aniline	100	△	-
Pyridine	100	△	-
Urea	Saturated	○	△
Organic Acid			
Acetic acid	50	△	△
Citric acid	Saturated	○	△
Formic acid	98	△	X
Oleic acid		○	△
Nucleic acid		○	△
Tannic acid		○	△
Glacial acid	100	△	X
Alcohol Group			
Cyclohexanol	100	○	△
Butyl alcohol	100	○	○
Ethyl alcohol	100	△	△
Glycerin	100	○	△
2-ethylhexanol	100	○	△
Methyl alcohol	100	△	△
Ethylene glycol	50	○	○
Ethylene glycol	100	○	△
Cresol	100	△	-

Category	Concentration %	Test Temperature	
		23°C	60°C
Aldehyde Ketone			
Acetone	40	△	△
Formaldehyde	100	△	-
Benzaldehyde	100	X	-
Dimethylformaldehyde	100	X	X
Methylethylketone	100	X	X
Chloride Solvent			
Carbon tetrachloride	100	△	-
Ethylenechloride	100	X	-
Methylenechloride	100	X	-
Chloroform	100	△	X
Trichloroethylene	100	△	X
Phenol Group			
Phenolnitro	Saturated	○	△
Nitrobenzene	100	△	-
Ester/Ether Group			
Ethylether	100	○	△
Butyl acetate	100	X	X
Diocetyl phthalate		△	-
Ethylacetate	100	X	X
Petroleumether	100	○	△
Dibutylphthalate		△	-
Tricledylphosphate		△	-
1.4-dioxin	100	○	△
Tetrahydrofuran	100	X	X
Hydrocarbon Group			
Benzene	100	△	X
Butane	100	○	△
Hexane	100	○	△
Isoctane	100	○	△
Cyclohexane	100	△	X
Toluene	100	X	X
Xylene	100	△	△
Freon 12		○	-
Thinner		X	X

(Note) ⊙: No change, ○: Resistance for practical use; △: Gradually deteriorated; X: Deteriorated (21 days immersion)

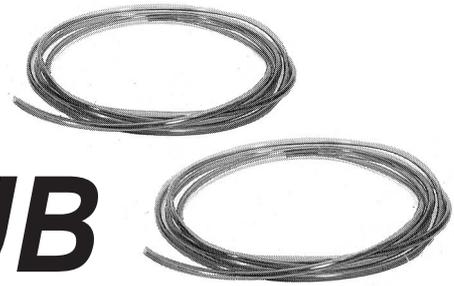


Contact your Sales Representative about SMC's Fitting Cabinet Program



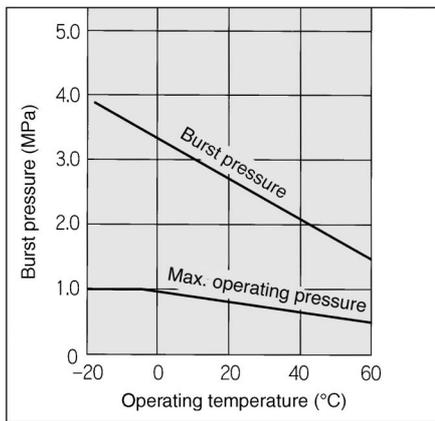
Polyurethane Tubing

Series TU, TIUB



For general air pressure tubing
Orange color now becomes standard
100m roll available for all color types

Burst Pressure Characteristics Curve



Series Table

● : 20m roll □ : 100m roll

Model	Tube size									
	Metric size (Series TU)					Inch size (Series TIUB)				
	TU0425	TU0604	TU0805	TU1065	TU1208	TIUB01	TIUB05	TIUB07	TIUB11	TIUB13
Tube O.D. (mm)	4	6	8	10	12	3.18	4.76	6.35	9.53	12.7
Tube I. D. (mm)	2.5	4	5	6.5	8	2	3.18	4.23	6.35	8.46
Black (B)	●	●	●	●	●	●	●	●	●	●
White (W)	●	●	●	●	●	●	●	●	●	●
Red (R)	●	●	●	●	●	●	●	●	●	●
Blue (BU)	●	●	●	●	●	●	●	●	●	●
Yellow (Y)	●	●	●	●	●	●	●	●	●	●
Green (G)	●	●	●	●	●	●	●	●	●	●
Clear (C)	●	●	●	●	●	●	●	●	●	●
Orange (YR)	●	●	●	●	●	●	●	●	●	●
	5/32"		5/16"			Nominal size (inch)				
						1/8"	3/16"	1/4"	3/8"	1/2"

Specifications

Fluid	Air, Water									
Max. operating pressure	0.8MPa at 20°C									
Burst pressure	Refer to pressure characteristics curve.									
Min. bending radius (mm)	10	15	20	27	35	10	15	23	27	35
Operating temperature	-20 to +60°C (Water: 0 to 40°C) (No freezing)									
Material	Polyurethane									

⚠ Precautions

Be sure to read before handling.
Refer to p.0-26 and 0-27 for Safety Instructions and common precautions on the products mentioned in this catalog, and refer to p.2.0-7 and 2.0-8 for more detailed precautions of every series.

⚠ Caution

- Applicable for general industry water. Consult SMC if using for other kinds of fluids. Surge pressure must be under the max. operating pressure. If exceeding that value, fitting may be damaged and tubing may burst.
- The value of the max. operating pressure is at a temperature of 20°C. Refer to the burst pressure characteristics curve for other temperatures. Avoid abnormal temperature rises which may burst the tubing.
- The values of the min. bending radius is at a temperature of 20°C. Higher temperatures allow the tubing to bend more.

How to Order

TU0425 BU 20

Indication of tube model

Color indication

Symbol	Color
B	Black
W	White
R	Red
BU	Blue
Y	Yellow
G	Green
C	Clear
YR	Orange

Length per roll

Symbol	Roll size*
20	20m roll
100	100m roll

Made to Order

- 100m roll for Metric size (black, white, red, blue, yellow, green) and Inch size (black, white, red, blue, yellow, green)

Suffix "-X3" to the end of part number.

Ex.) TIUB01Y-100-[X3]

* Consult SMC in case of ø16.

- 20m roll for Inch size (except black and white)

Suffix "-X4" to the end of part number.

Ex.) TIUB01Y-20-[X4]

- Longer roll length (black, white, red, blue, yellow, green)

Suffix "-X3" to the end of part number.

Ex.) TU0425B-500-[X3]

* Available 150m for ø10, 200m for ø8, 500m for ø4 and ø6. Contact SMC for other lengths.

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