



SMC Technical Tubing The best tubing for any application

- Increases the life expectancy of your tubing while using the best tube for your specific conditions
- Longer life of other pneumatic equipment
- Less stops for maintenance
- Increased savings



The best tubing for any application

Without doubt, the heart is one of the most important organs in our body; if it stops, we stop! But it only keeps pumping thanks to the vital veins which carry blood to every organ in the human body. Likewise, the tubing inside a machine carries air or other essential fluids to every part of a machine. Tubing is placed all around the installation and sometimes it's exposed to extreme conditions and harsh environments. We identified tubing as a weak point in the majority of pneumatic installations and designed a **wide range of innovative and high quality Technical Tubing, with non-standard features, to offer the best solutions for specific applications.**



For SMC, every detail is important. We are continually focused on the needs of our customers, identifying features to improve and develop new products to solve these needs. For us, innovation is not only a word but a reality as SMC was recognised by the prestigious business magazine Forbes **as one of the Top 50 World's Most Innovative Companies.**

Why use Technical Tubing?

Using the right type of tubing saves money! Even though a standard tube may initially seem cheaper, there are times when they are not the best option for an application and in the short-term it may prove to be more costly.



In some applications, such as arc welding or environments with high levels of static electricity, a non-standard tube with special technical characteristics will:

- save time as you will have to do fewer stops and less maintenance work,
- extend the life of your tubing and pneumatic machinery and,
- **save you money.**

When should you use Technical Tubing?

There are many applications that benefit from Technical Tubing including:



• **Condensation** – our unique **IDK** tubing is the ideal solution for small size pneumatic equipment that is prone to corrosion or operational breakdown, as it diffuses water vapour from inside the piping thus avoiding water condensation and problems caused by the drop of the dew point.

• **Spot or arc welding** – also unique in the market, our **TRTU** can withstand even the harshest of sparks! It is a flame resistant three layer polyurethane tube with an aluminium middle layer that is designed to cope with the harsh realities of the arc welding process.

• **Chemicals and high temperatures** – the **TH** can cope with the toughest environments and is ideal for the Food, Semiconductor, Life Science, Automotive and Machine Tool industries. Due to its high chemical and heat resistance, it is able to support severe conditions, besides; it can withstand higher operating pressure.



• **Static electricity** – the **TAU** offers the perfect solution to avoid static charge and thanks to its flexibility, is perfect to use in difficult-to-reach places.

• **Wear or sliding motion abrasion** – our **TUZ** is the answer. Incredibly flexible and designed to fit into confined spaces, this tubing is extremely hard wearing.

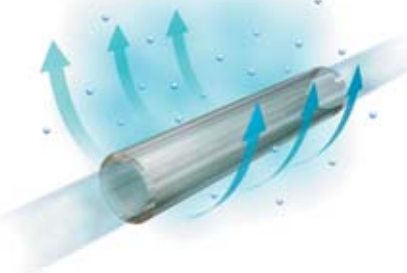
In addition, our extensive range of Technical Tubing is available for fast delivery.

Eliminates Condensation and Moisture
Series IDK

“UNIQUE”



Air



IDK	Tubing O. D. [mm]		
	ø2	ø4	ø6
Transparent <input type="checkbox"/>	•	•	•
Minimum bending radius [mm]	10	20	40
Effective length (2 pcs.) [mm]	100 and 200		
Max. operating pressure	0.7 MPa		
Operating temperature	0 to 40°C (No freezing)		
Material	Fluoropolymer		
Operating environment	Indoors Not exposed to water 0 to 75% RH		

* Consult the specific catalogue for detailed information.

Applications

- Any time condensation can occur with small actuators, air grippers and air operated valves. Condensation in a pneumatic system will cause operating failure and affect the life of pneumatic equipment.
- Manufacturers of electrical components.
- When you need to eliminate water condensation but you can not use a membrane or desiccant dryer (as you cannot use a fast exhaust).

Benefits

- Longer life of other pneumatic equipment.
- Prevents operational failure of small actuators, air grippers and pilot operated valves due to condensation.
- Avoids corrosion in other pneumatic equipment.
- Diffuses water vapour in the piping to the outside before it liquefies, so we avoid problems such as dried grease or ozone when using other types of dryers.
- Easy mounting.

Stocked items for fast delivery

IDK	Tubing O. D. [mm]		
	ø2	ø4	ø6
Transparent - 100 mm effective length	IDK02-100	IDK04-100	IDK06-100
Transparent- 200 mm effective length	IDK02-200	IDK04-200	IDK06-200

Resistant to Spatters from Arc and Spot Welding - Flame Resistant
Series TRTU

“UNIQUE”



Air



Water



TRTU	Tubing O. D. [mm]			
	ø6	ø8	ø10	ø12
Black <input type="checkbox"/>	•	•	•	•
White <input type="checkbox"/>	•	•	•	•
Red <input type="checkbox"/>	•	•	•	•
Blue <input type="checkbox"/>	•	•	•	•
Yellow <input type="checkbox"/>	•	•	•	•
Green <input type="checkbox"/>	•	•	•	•
Minimum bending radius [mm]	50	60	70	80
Roll length [m]	20 and 100			
Max. operating pressure	0.8 MPa (at 20°C); 0.65 MPa (at 40°C) and 0.5 MPa (at 60°C)			
Operating temperature	Air: -20 to 60°C and Water: 0 to 40°C (No freezing)			
Material	Inner tube: Polyurethane Middle layer: Aluminium laminated film Outer layer: Polyolefin (Equivalent to UL-94 standard V-0)			

* Consult the specific catalogue for detailed information.

Applications

- Environments exposed to harsh sparks from arc or spot welding.
- Automotive manufacture.
- Welding business.

Benefits

- Increases tubing life expectancy.
- Less stops for maintenance as it is a flame resistant three-layer polyurethane tubing that has a superior weld spatter resistance.
- Increases savings.

Stocked items for fast delivery

TRTU	Tubing O. D. [mm]			
	ø6	ø8	ø10	ø12
Black - 20 m roll	TRTU0604B-20	TRTU0805B-20	TRTU1065B-20	TRTU1208B-20
Blue - 20 m roll	TRTU0604BU-20	TRTU0805BU-20	TRTU1065BU-20	TRTU1208BU-20



High Resistant to Chemicals and Heat Series TH



TH	Tubing O. D. [mm]				
	ø4	ø6	ø8	ø10	ø12
Translucent <input type="checkbox"/>	•	•	•	•	•
Red (Translucent) <input type="checkbox"/>	•	•	•	•	•
Blue (Translucent) <input type="checkbox"/>	•	•	•	•	•
Black (Opaque) <input type="checkbox"/>	•	•	•	•	•
Minimum bending radius [mm]	15 to 20	35	60	95 to 100	100 to 130
Roll length [m]	20 and 100 (100 m only for translucent <input type="checkbox"/>)				
Max. operating pressure (at 20°C) [MPa]	1.7 to 2.3	1.5	1	0.7 to 1	0.7 to 1
Operating temperature	Air, inert gas: -20 to 200°C Water: 0 to 100°C (No freezing)				
Material	FEP (Fluorinated Ethylene Propylene Resin)				

* Consult the specific catalogue for detailed information.

Applications

- Food industry: In bakery machines.
- Semiconductor industry: For general piping of air, water or inert gases at high temperatures.
- Life Science: In autoclaves, sterilisers, analysers.
- Automotive industry: In painting machines or cabinets. For ventilation or heating circuits.
- Machine Tool: In temperature forming machines, plastic moulding machines, vacuum drying machines or industrial washing machines.

Benefits

- It can be used in extreme conditions as it has a high chemical and heat resistance as well as allowing higher operating pressure.
- Compatible with the §177-1550 dissolution test approved by FDA (Food and Drug Administration).

Stocked items for fast delivery

TH	Tubing O. D. [mm]			
	ø4	ø6	ø8	ø10
Translucent - 20 m roll	TH0425N-20	TH0604N-20	TH0806N-20	TH1008N-20
Red (Translucent) - 20 m roll	TH0425R-20	TH0604R-20	TH0806R-20	TH1008R-20
Blue (Translucent) - 20 m roll	TH0425BU-20	TH0604BU-20	TH0806BU-20	TH1008BU-20
Black (Opaque) - 20 m roll	TH0425B-20	TH0604B-20	TH0806B-20	TH1008B-20

Antistatic Series TAU



TAU	Tubing O. D. [mm]					
	ø3.2	ø4	ø6	ø8	ø10	ø12
Black <input type="checkbox"/>	•	•	•	•	•	•
Minimum bending radius [mm]	10	10	15	20	27	35
Roll length [m]	20 and 100					
Max. operating pressure	0.9 MPa (at 20°C)					
Operating temperature	0 to 40°C					
Material	Conductive polyurethane					
Surface resistance	10 ⁴ to 10 ⁷ Ω					

* Consult the specific catalogue for detailed information.

Applications

- Processes affected by static electricity.

Benefits

- Prevents static charge.
- Thanks to its high flexibility it can be used in hard-to-reach areas.

Stocked items for fast delivery

TAU	Tubing O. D. [mm]					
	ø3.2	ø4	ø6	ø8	ø10	ø12
Black - 20 m roll	TAU3220B-20	TAU0425B-20	TAU0604B-20	TAU0805B-20	TAU1065B-20	TAU1208B-20

Wear Resistant - Low Friction
Series TUZ



TUZ	Tubing O. D. [mm]				
	ø4	ø6	ø8	ø10	ø12
Black ■	•	•	•	•	•
White □	•	•	•	•	•
Red ■	•	•	•	•	•
Blue ■	•	•	•	•	•
Yellow ■	•	•	•	•	•
Green ■	•	•	•	•	•
Minimum bending radius [mm]	10	15	20	27	35
Roll length [m]	20 and 100				
Max. operating pressure	0.8 MPa (at 20°C) and 0.4 MPa (at 60°C)				
Operating temperature	-20 to 60°C				
Material	Special polyurethane				
Maximum abrasion (after 10 million cycles)	0.16 mm (while a standard tube is around 0.46 mm)				

Applications

- For the sliding motion abrasion of the tubing inside a cable chain.
- For the sliding motion abrasion between tubing.

Benefits

- Tubing longer life in dynamic tube installations as it is a wear resistant tubing.
- Piping labour hours can be reduced due to its high flexibility to fit into narrow piping spaces.

Stocked items for fast delivery

TUZ			Tubing O. D. [mm]				
Colours (□)		Length	ø4	ø6	ø8	ø10	ø12
B: Black W: White R: Red	BU: Blue Y: Yellow G: Green	20 m roll	TUZ0425□-20	TUZ0604□-20	TUZ0805□-20	TUZ1065□-20	TUZ1208□-20
		100 m roll	TUZ0425□-100	TUZ0604□-100	TUZ0805□-100	TUZ1065□-100	TUZ1208□-100

Applicable Fittings

Applicable Fittings	Series IDK	Series TRTU	Series TH	Series TAU	Series TUZ
One-touch Fittings - Series KQ2	✓		✓		✓
SUS 316 One-touch Fittings - Series KQG2			✓		✓
Insert Fittings - Series KF			✓		✓
SUS 316 Insert Fittings - Series KFG2			✓		✓
Miniature Fittings - Series M			✓		✓
SUS 316 Miniature Fittings - Series MS			✓		✓
High Purity Fluoropolymer Fittings - Series LQ			✓		
Flame resistant Fittings - Series KR-W2		✓			
Metal one-touch Fittings - Series KQB2		✓			
Antistatic one-touch Fittings - Series KA				✓	

Related Products

Series IDK	Series TRTU	Series TH	Series TAU
ISO Cylinder Series C85 	Power Clamp Cylinders Series CKZ3T 	High Purity Chemical Valves Series LV 	Antistatic Cylinder Series CM2-X1051
Dual Rod Cylinder Series CXS 	Clamp Cylinders. Slim Style Series CKG-X2095 	Diaphragm Process Pump Series PB / PAF 	Antistatic Speed Controller Series AS-X260
Air Slide Table Series MXQ 	Cylinders with coil scraper Made to order XC35 Coil scraper Welding sputter	Fluoropolymer Needle Valve Series LVN 	
Air Gripper Series MHZ2 	Metal elbow speed controller with one touch fittings Series AS-F 		
Rotary Table Series MSQ 			

Select the appropriate tubing for your application and reduce costs.....

And besides... SMC has a huge range of Technical Tubing, here you will find the one that best suits your application:

Applications	Series	Material	Characteristics	Fluids
General use	TFU*	Polyurethane	Flat tubing, special for compact piping, cores of 2 or 3 tubes	Air
	TCU*	Polyurethane	Coil tubing, special for compact piping, cores of 1, 2 or 3 tubes	Air
	TUH	Hard Polyurethane	Higher operating pressure than standard, good flexibility	Air
	TU*	Polyurethane	Available in 29 different colours, good flexibility	Air, Water
	TUS	Soft Polyurethane	Excellent flexibility	Air
	T	Nylon	High pressure resistance	Air, Water
	TS	Soft Nylon	Good flexibility	Air
Clean applications	TPH	Polyolefin	Good flexibility	Air, Nitrogen gas, Deionised water
	TPS	Soft Polyolefin	Excellent flexibility	Air, Nitrogen gas, Deionised water
Welding applications	TRS	Soft Nylon	Flame resistant (equivalent to UL-94 Standard V-0), good flexibility	Air, Water
	TRB	Inner tube: Nylon Outer layer: PVC	Flame resistant (equivalent to UL-94 Standard V-0), double layer	Air, Water
	TRBU	Inner tube: Polyurethane Outer layer: Polyolefin	Flame resistant (equivalent to UL-94 Standard V-0), double layer, good flexibility	Air, Water
Chemical and Heat resistant	TD	Soft Fluoropolymer (PTFE)	Excellent resistance to chemicals and heat, high flexibility. FDA conform	Air, Deionised water, Chemicals
	TLM	Fluoroethylene (PFA)	Excellent resistance to chemicals and heat. General industry including solar cell, liquid crystal, medical and food. FDA conform	Air, Deionised water, Chemicals
	TL	Fluoropolymer (Super PFA)	Excellent resistance to chemicals and heat. Mainly for semiconductor industry	Air, Deionised water, Chemicals
Antistatic	TAS	Soft Nylon	Antistatic tubing	Air

* These tubes have a clean version: 10-TFU, 10-TCU, 10-TU

Accessories.....

Tube Stand & Tube Reel
Series TB/TBR



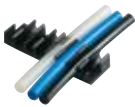
Tube Cutter
Series TK



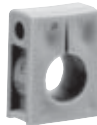
3-Layer Tube Stripping Tool
YS-100



Multi Tube Holder
Series TM



Holder for Speed Controller with one-touch fitting
Series TMH



Tube Releasing Tool
TG-1



General related products.....

Speed Controller with One-touch fitting, Elbow and Universal types
Series AS□1F



Multi-connector
Series DM



Rotary Union Low Torque Metal Seal Type
Series MQR



Multi-connector with One-touch Fittings
Series DMK



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