

Wear Resistant Tubing / Clear Type

New

RoHS

Abrasion: Approx. 1/3

(Compared with SMC polyurethane tubing TU series)

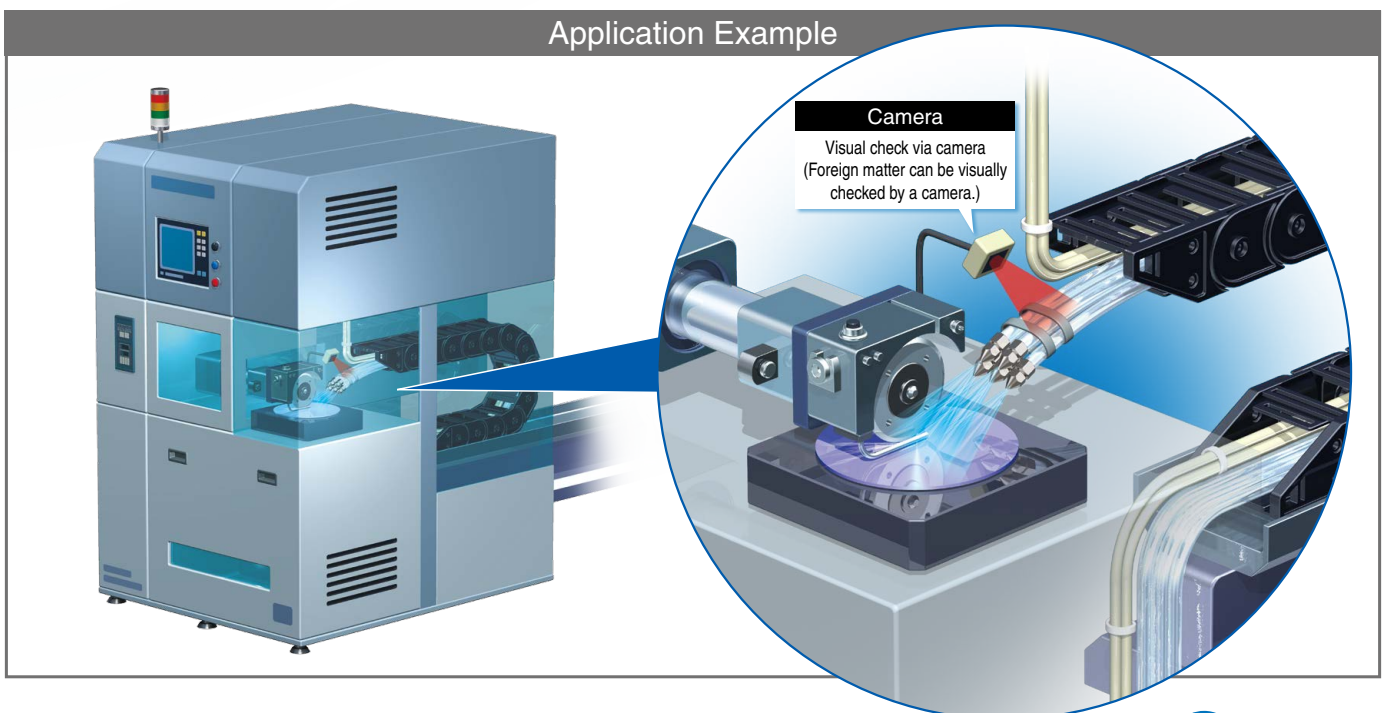
Clear type

Transparency in which the inside contents of a tube can be seen.



Tubing size	O.D. 6 mm x I.D. 4 mm
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Application Example



TUZC Series

 SMC

CAT.ES50-45A

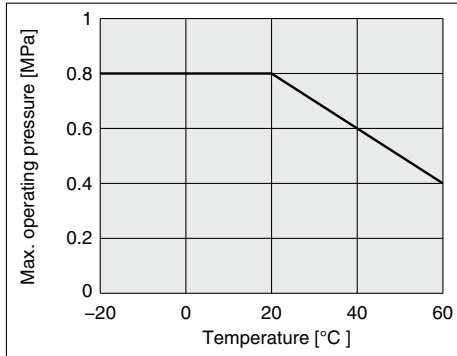
Wear Resistant Tubing / Clear Type

RoHS

TUZC Series



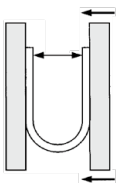
Max. Operating Pressure



⚠ Precautions

Be sure to read this before handling the products. For the safety instructions and the fitting/tubing precautions, refer to the “Handling Precautions for SMC Products” and the “Operation Manual” found on the SMC website.

How to measure the minimum bending radius



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

Model

● -20 m roll □ -100 m roll

Tubing size	
Metric sizes (TUZC series)	
Model	TUZC0604
Tubing O.D.	6
Tubing I.D.	4
Black (B)	●
Blue (BU)	●
Translucent (N)	●

Specifications

Fluid*1, *2		Air/Water
Applicable fittings*1, *2		One-touch fittings KQ2 series, Insert fittings KF series, Stainless steel 316 insert fittings KFG2 series, Miniature fittings M/MS series (hose nipple type)
Max. operating pressure	20°C or less	0.8
	40°C	0.6
	60°C	0.4
Operating vacuum pressure [kPa] ^{*3}		-101.3
Min. bending radius [mm] ^{*4}		15
Operating temperature		Air: -20 to 60°C Water: 0 to 40°C (No freezing)
Material		Polyurethane

- *1 Applicable for general industrial water. Please consult with SMC if using other kinds of fluid. Surge pressure must be under the max. operating pressure. If the surge pressure exceeds the maximum operating pressure, it will result in damage to fittings and tubes.
- *2 Abnormal temperature rise caused by adiabatic compression may result in the tube bursting.
- *3 As the operating vacuum pressure varies depending on the applicable fittings, be sure to check the fitting specifications beforehand.
- *4 The minimum bending radius means the value measured by the method shown in the figure at the left 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

TUZC0604 N - 20

Tubing model ●

Color ●


Length per roll ●


Symbol	Color
B	Black (Opaque)
BU	Blue (Translucent)
N	Translucent (Material color)


Symbol	Length
20	20 m roll
100	100 m roll

Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of “**Caution**,” “**Warning**” or “**Danger**.” They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)*1), and other safety regulations.

 **Danger :** **Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

 **Warning:** **Warning** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

 **Caution:** **Caution** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

*1) ISO 4414: Pneumatic fluid power - General rules and safety requirements for systems and their components
ISO 4413: Hydraulic fluid power - General rules and safety requirements for systems and their components
IEC 60204-1: Safety of machinery - Electrical equipment of machines - Part 1: General requirements
ISO 10218-1: Robots and robotic devices - Safety requirements for industrial robots - Part 1: Robots etc.

Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery/equipment until safety is confirmed.

1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. Our products cannot be used beyond their specifications. Our products are not developed, designed, and manufactured to be used under the following conditions or environments. Use under such conditions or environments is not covered.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Use for nuclear power, railways, aviation, space equipment, ships, vehicles, military application, equipment affecting human life, body, and property, fuel equipment, entertainment equipment, emergency shut-off circuits, press clutches, brake circuits, safety equipment, etc., and use for applications that do not conform to standard specifications such as catalogs and operation manuals.
3. Use for interlock circuits, except for use with double interlock such as installing a mechanical protection function in case of failure. Please periodically inspect the product to confirm that the product is operating properly.

Caution

We develop, design, and manufacture our products to be used for automatic control equipment, and provide them for peaceful use in manufacturing industries.

Use in non-manufacturing industries is not covered.

Products we manufacture and sell cannot be used for the purpose of transactions or certification specified in the Measurement Act.

The new Measurement Act prohibits use of any unit other than SI units in Japan.

Limited warranty and Disclaimer/ Compliance Requirements

The product used is subject to the following “Limited warranty and Disclaimer” and “Compliance Requirements”.

Read and accept them before using the product.

Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first.*2)
Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.
This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.


*2) **Vacuum pads are excluded from this 1 year warranty.**

A vacuum pad is a consumable part, so it is warranted for a year after it is delivered.

Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

 **Safety Instructions** Be sure to read the “Handling Precautions for SMC Products” (M-E03-3) and “Operation Manual” before use.

SMC Corporation