Improved spatter resistance

Spatter resistance is twice that of FR double layer polyurethane tubing TRBU series. *In SMC conditions

For general pneumatic and water piping in environments exposed to sparks from arc welding, etc.

Spatter resistance is improved by installing an aluminum layer between the outer layer and inner tube.

6-color variations

<table>
<thead>
<tr>
<th>Model</th>
<th>TRTU0604</th>
<th>TRTU0805</th>
<th>TRTU1065</th>
<th>TRTU1208</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inner tube O.D. (mm)</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Inner tube I.D. (mm)</td>
<td>4</td>
<td>5</td>
<td>6.5</td>
<td>8</td>
</tr>
<tr>
<td>Outer layer thickness (mm)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Outer layer color

- Black (B)
- White (W)
- Red (R)
- Blue (BU)
- Yellow (Y)
- Green (G)
Flame Resistant (Equivalent to UL-94 Standard V-0) FR Three-layer Polyurethane Tubing

Series TRTU

Model Specifications

<table>
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Note 1) Applicable for general industrial water. Please consult with SMC if using for the other kind of fluid. Also, the surge pressure must be under the maximum operating pressure. If the surge pressure exceeds the maximum operating pressure, it will result in damage to fittings and tubes.

Note 2) The minimum bending radius is the representative value measured as shown in the left figure. Allow extra length when piping since the tube may be bent if used under the minimum bending radius.

Note 3) The color of all inner tubes is black.

Specifications

Fluid
- Air, Water

Applicable fittings
- FR one-touch fittings: Series KR-W2
- Metal one-touch fittings: Series KQB2

Max. operating pressure
- At 20°C: 0.8 MPa
- At 40°C: 0.65 MPa
- At 60°C: 0.5 MPa

Burst pressure
- Refer to the burst pressure characteristics curve.

Min. bending radius (mm) (Note 2)
- 50
- 60
- 70
- 80

Ambient and fluid temperature
- -20 to +60°C Water: 0 to 40°C (No freezing)

Material
- Inner tube: Polyurethane
- Middle layer: Aluminum laminated film
- Outer layer: Polyolefin (Equivalent to UL-94 Standard V-0)

How to Order

Model | Inner tube O.D. x I.D. (mm) | Length per roll |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TRTU0604</td>
<td>6 x 4</td>
<td>Symbol Length</td>
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<tr>
<td>TRTU0805</td>
<td>8 x 5</td>
<td>20 m roll</td>
</tr>
<tr>
<td>TRTU1065</td>
<td>10 x 6.5</td>
<td>100 m reel</td>
</tr>
<tr>
<td>TRTU1208</td>
<td>12 x 8</td>
<td></td>
</tr>
</tbody>
</table>

Color
- B: Black
- W: White
- R: Red
- BU: Blue
- Y: Yellow
- G: Green

Burst Pressure Characteristics Curve and Operating Pressure

How to measure the minimum bending radius

Bend the tube into the U-form at a temperature of 20°C. Fix one end and close loop gradually. Measure 2R when the deformed ratio of the tube diameter at bending reaches 5%.

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If the surge pressure exceeds the maximum operating pressure, it will result in damage to fittings and tubes.

Note 2) The minimum bending radius is the representative value measured as shown in the left figure. Allow extra length when piping since the tube may be bent if used under the minimum bending radius.

Note 3) The color of all inner tubes is black.
Installation on One-touch Fittings

Pitch length for installation on a one-touch fitting is indicated on the outer layer of the TRTU tubing. (There are two types of applicable fittings, so two types of pitch length for installation are available.)

Cut the tube according to this indication (Step 1) and strip off the outer layer (Step 2) using a special tool. Strip off the aluminum laminated film to prevent the inner tube from being damaged (Step 3) and install it on the one-touch fitting.

Refer to the Operation Manual for details of installation on the one-touch fitting. The Operation Manual can be downloaded from the SMC URL below.

http://www.smcworld.com/

Installation on the KR-W2 series

Step 1

Outer layer, aluminum laminated film and inner tube are cut at the "v" mark.

Step 2

Strip off the outer layer.

Step 3

Strip off the aluminum laminated film to prevent the inner tube from being damaged.

Identification of the pitch length for installation

"": Series KQB2

"": Series KR-W2
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.

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

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

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

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/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. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.
1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.
3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

Caution

1. The product is provided for use in manufacturing industries.
The product herein described is basically provided for peaceful use in manufacturing industries.

If considering the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary.

Limited warranty and Disclaimer/Compliance Requirements

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

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. (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.