



## Co-Extruded Peristaltic Pump Tubing



### Long Pump Life - Chemical Dispensing Tubing

#### Unique Contamination of Properties

Tygon® Chemical Peristaltic Pump Tubing is a high-performance, co-extruded product specifically formulated to provide an ideal combination of chemical resistance and pump life. Its inert ultra-smooth, plasticizer-free bore resists the absorption/adsorption of aqueous fluids while the Tygon® outer jacket provides long flex life in peristaltic pumps. Tygon® Chemical Peristaltic Pump Tubing is an excellent choice for soap and detergent dispensing.

#### Outstanding Chemical Resistance

The inner liner of Tygon® Chemical Peristaltic Pump Tubing significantly increases the chemical resistance and allows for a broader range of usability. The tubing is virtually unaffected by acids, bases, salts, ketones and alcohols, allowing its use in a wide range of chemical applications without the use of multiple tubings.

#### Superior Pump Life

The outer jacket of Tygon® Chemical Peristaltic Pump tubing is extremely flexible, expanding the pump life of the tubing and reducing downtime due to pump tubing failure.

#### Additional Benefits

Tygon® Chemical Peristaltic Pump tubing complies with applicable FDA food additive regulations for its intended use. It is virtually unaffected by most commercial sanitizers and cleaners and can be autoclaved for up to five cycle times without affecting its overall service life

#### Features and Benefits

- Long flex life in peristaltic pumps
- Temperature range of -59°C (-75°F) to +74°C (+165°F)
- Superior chemical resistance
- Plasticizer-free bore
- Meets FDA criteria for food contact\*
- Resists absorption/adsorption of aqueous fluids
- Virtually unaffected by chemical sanitizers and cleaners

#### Typical Applications

- Soap and detergent dispensing
- Commercial laundry chemical dispensing
- Warewash chemical dispensing
- Facility cleaning chemical dispensing

\*For complete compliance information and appropriate use instructions, please contact us

**OPTUBUS GmbH – [www.optubus.de](http://www.optubus.de) – [info@optubus.de](mailto:info@optubus.de)**

OPTUBUS believes that the information in this technical data sheet is an accurate description of the typical uses of the product. OPTUBUS, however, disclaims any liability for incidental or consequent damages, which may result from the use of the product that are beyond its control. Therefore it is the user's responsibility to thoroughly test the product in their particular application to determine its performance, efficiency and safety. Nothing contained herein is to be considered as permission or a recommendation to infringe any patent or any other intellectual property right.

## Tygon® Chemical Peristaltic Pump Tubing Standard Sizes

Part Number	ID	OD	Wall	Min. Bend Radius	Max. Working Pressure* 22°C (73°F)	Max. Working Pressure* 71°C (160°F)	Vacuum Rating at 22°C (73°F)	Vacuum Rating at 82°C (180°F)
TY3,18CP6,35	3,18 mm (1/8")	6,35 mm (1/4")	1,59 mm (1/16")	12,7 mm	2,3 bar (33 psi)	1,0 bar (14 psi)	760 mmHg	760 mmHg
TY4,76CP7,94	4,76 mm (3/16")	7,94 mm (5/16")	1,59 mm (1/16")	25,4 mm	2,0 bar (29 psi)	0,7 bar (10 psi)	760 mmHg	760 mmHg
TY6,35CP9,53	6,35 mm (1/4")	9,53 mm (3/8")	1,59 mm (1/16")	31,7 mm	1,4 bar (20 psi)	0,5 bar (8 psi)	760 mmHg	381 mmHg
TY9,53CP12,7	9,53 mm (3/8")	12,7 mm (1/2")	1,59 mm (1/16")	50,8 mm	1,0 bar (14 psi)	0,3 bar (5 psi)	635 mmHg	127 mmHg
TY12,7CP19,05	12,7 mm (1/2")	19,05 mm (3/4")	3,18 mm (1/8")	57,1 mm	1,1 bar (16 psi)	0,5 bar (8 psi)	760 mmHg	635 mmHg

\*Working pressures are calculated at a 1:5 ratio relative to burst pressure using ASTM D1599

The values listed for working and burst pressures are derived from tests conducted under controlled laboratory conditions. Many factors will reduce the tubing's ability to withstand pressures, including temperature, chemical attack, stress, pulsation and the attachment to fittings. It is imperative that the user conduct tests simulating the conditions of the application prior to specifying the tubing for use.

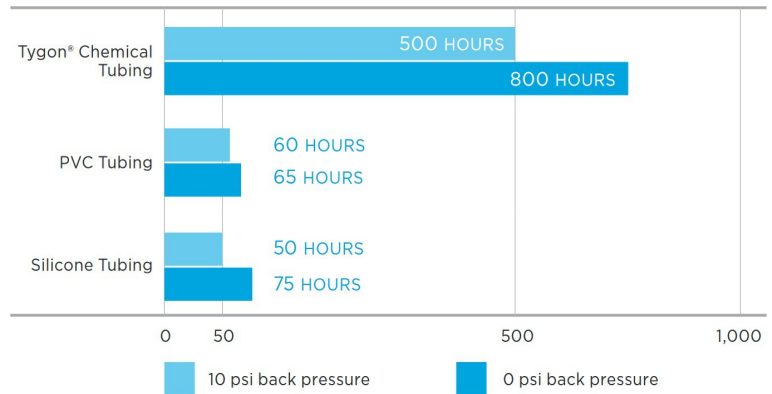
### Comparative Peristaltic Pump Tubing Life

The table illustrates hours until failure of 1/4" ID x 3/8" OD (6,35 mm ID x 9,525 mm OD) Tubing.

In each case, a 3-roller pump head operating at 600 rpm under room temperature 23°C (73°F).

Tubing failure is measured in hours of use prior to rupture.

The performance of tubing in peristaltic pumping applications is affected by the conditions of use and equipment utilized, along with size and wall thickness of the tubing tested. The data above is presented for information only and should not be utilized for specification purposes.



### Typical Physical Properties of Tygon® Chemical Peristaltic Pump Tubing

Property	ASTM Method	Value of Rating
Durometer Hardness	D2240-03	61° Shore A, 15s
Color	-	Cream
Tensile Strength	D412	6.9 MPa (1000 psi)
Ultimate Elongation	D412	375,00%
Tear Resistance	D1004	21.0 kN/m (120 lb-f/in)
Specific Gravity	D792	0,98
Compression Set Constant Deflection 22 hrs. @ 70°C	D395 Method B	30,00%
Maximum Recommended Operating Temperature	-	74°C (165 °F)
Brittleness by Impact Temperature	D746	-59°C (-75°F)
Water Absorption, 24 hrs. @ 23°C	D570	<0,01%

Unless otherwise noted, all tests were conducted at room temperature 23°C (73°F). Values shown were determined on 1.905 mm (0,075") thick extruded strip or 1.905 mm (0,075") thick molded ASTM plaques or molded ASTM durometer buttons. Size of tubing tested is 3,18 mm (1/8") ID x 6,35 (1/4") OD.

**Tygon® CHEMICAL TUBING IS NOT INTENDED FOR USE AS AN IMPLANT MATERIAL.**

**OPTUBUS GmbH – www.optubus.de – info@optubus.de**

OPTUBUS believes that the information in this technical data sheet is an accurate description of the typical uses of the product. OPTUBUS, however, disclaims any liability for incidental or consequent damages, which may result from the use of the product that are beyond its control. Therefore it is the user's responsibility to thoroughly test the product in their particular application to determine its performance, efficiency and safety. Nothing contained herein is to be considered as permission or a recommendation to infringe any patent or any other intellectual property right.