



Tygon® Non-DEHP S-74 Tubing for Medical Device Manufacturers

Tygon® S-74 tubing is made from a biocompatible polymer that is not formulated with DEHP. This tubing is typically used in catheters, surgical drains, and applications involving the administration of fluids and oxygen.

Characteristics

Tygon S-74 was formulated to meet the requirements of Regulation (EC) 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) and does not contain any reportable substances or chemicals of concern.

Tygon S-74 is not intentionally made or manufactured with animal derived material.

During the extrusion process, individual product dimensions are maintained and monitored through in-line micrometers and off-line verification with computerized imaging equipment. Consistent with many medical tubing market requirements, Tygon S-74 can be effectively bonded/welded using the following methods: heat, electronic (RF)/ultrasonic, solvent and adhesive. Factors to be considered when selecting the components include: security of the bond required, effect on the integrity of the materials to be joined, and presence of residues or extractables that may affect biocompatibility. When bonding procedures are not used, mechanical clamps are recommended to provide secure attachment.

Features/Benefits

- Clear and flexible
- Excellent bonding to plastic connections
- Tygon® S-74 has met the requirements off Biological Test for Plastics Class VI, as described in USP <88> (2013)

Typical Applications

- Fluid administration
- Surgical drains
- Catheters
- Oxygen administration
- Peristaltic pumps

Tygon® S-74 Typical Physical Properties*

Property	ASTM Method	Value or Rating
Durometer Hardness, Shore A, 15 sec.	D2240-02	56
Tensile Strength, psi (MPa)	D412-98	1,447 (10.7)
Ultimate Elongation, %	D412-98	286
Tensile Set, % @ 75% of ultimate elongation	D412-98	47
% @ break		24
Tear Resistance, lb-f/inch (kN/m)	D1004-94	175 (21.9)
Compression Set, Constant Deflection % @ 158°F (70°C) for 22 hours	D395-02 Method B	48
Brittle Temperature, °F (°C)	D746-98	-59 (-51)
Specific Gravity	D792-02	1.16
Water Absorption, %, 24 hours at 73°F (23°C)	D570-98	0.10
Maximum Recommended Operating Temperature °F (°C)	-	165 (74)
Tensile Modulus, @100% Elongation, psi (MPa)	D412-98	831
Color	-	Clear

* Unless otherwise noted, all tests were conducted at room temperature (73°F). Values shown were determined on 0.075" thick extruded strips, 0.075" thick molded ASTM plaques or molded ASTM durometer buttons.

Tygon® S-74 Tubing Relative Chemical Resistance Properties**

Acids	Bases	Salts	E
concentrated F	concentrated E		
medium E	medium E	Alcohols	F
weak E	weak E	Ketones	U

E=Excellent, F=Fair, U=Unsatisfactory

** All tests conducted at room temperature

Tygon® S-74 Tubing Sterilization Methods

Autoclavable (Steam 30 min at 15 psi, 250°F / 121°C)	Yes
EtO (Ethylene Oxide)	Yes
Radiation	No

Tygon® S-74 Tubing Characteristics

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