

PTFE Liner



Supplied on spool



Our PTFE Liner features ultra thin wall (0.0003") with tight tolerance, maximize your ID or minimize your OD with our qualified catheter liner. The continuous-spoiled process on the silver-plated copper-core mandrel realizes the streamlining and reduces cost significantly through the entire catheter assembly process. Ideal for the smaller catheter to enable the efficient delivery of procedures.

Specifications

Features

- Ultra thin wall: 0.0003" – 0.0005" (8 μ m – 13 μ m)
- Wall tolerance: \pm 0.00008" (\pm 2 μ m)
- Inside diameter: 0.01" – 0.11" (0.3mm – 2.8mm)
- Excellent lubricity and chemical resistance.
- Supplied on spool with silver-plated copper-core mandrel (lengths up to 1500 meter)

Quality control

- OD is monitored on the entire length
- Pin hole check on the entire length (Marking at the pin hole .)

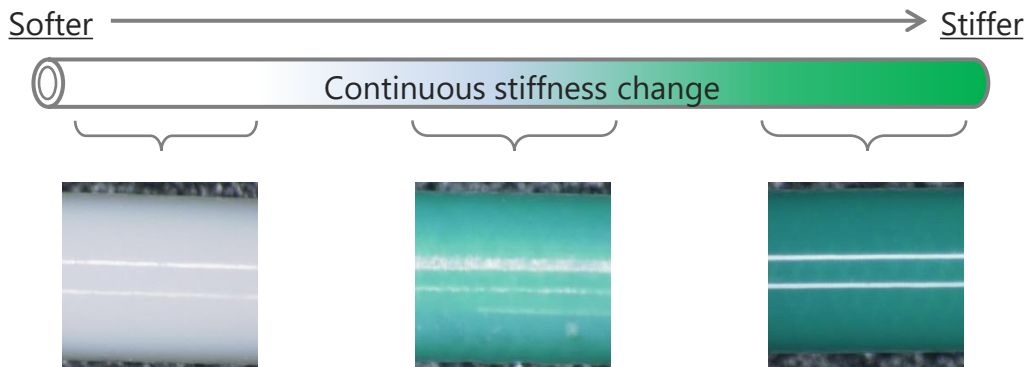
Tie layer enhances Adhesion

PTFE liner can be supplied with etched or a thin thermoplastic Tie layer (8 μ m) to enhance adhesion. Option of cut lengths or continuous-spoiled lengths is available.

Other options

- We can produce PTFE lined tubing with reinforcements such as coil and braided with material including SS304, tungsten, polymeric filament such as 66PA, or PEEK.
- Outer jacketing is also available in a variety of materials including Nylon, polyurethane, HDPE, LDPE, or numerous other materials.

Variable Durometer tube

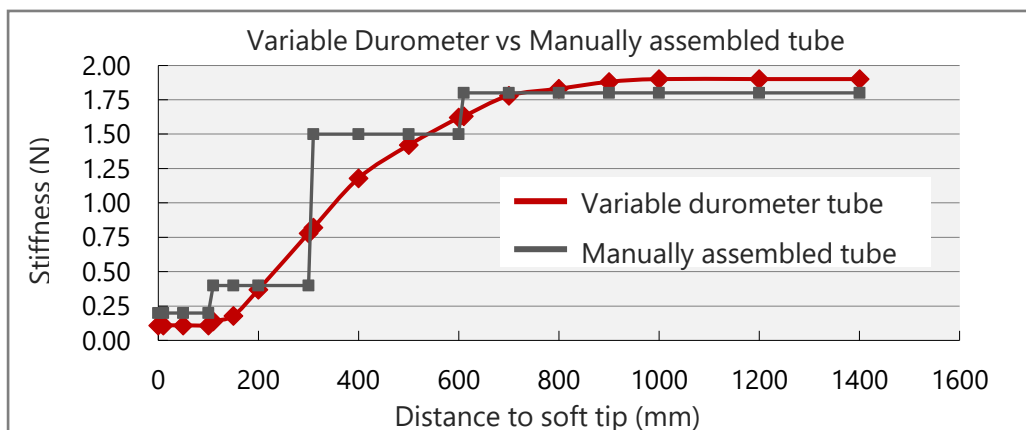


Variable durometer throughout the length of the tube provide a delicately soft tip with hard proximal end. Our continuous extrusion process eliminating labor and welded points of the manually assembled tube causing misaligned segment to failure, realize seamless flexibility, reducing cost and improving your catheter performance. This process also can be validated and less susceptible to lot-to-lot variations. Ideal for catheter required soft tip with pushability at the proximal end.

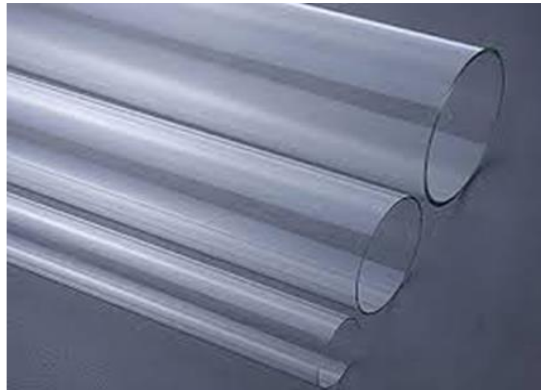
Specifications

Outer diameter : 0.03 – 0.04" (0.80 – 1.09mm)
 Inner diameter : 0.02 – 0.03" (0.54 – 0.77mm)
 Material : Pebax®, Vestamide®

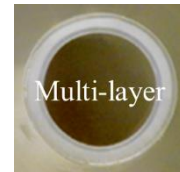
Example of continuous stiffness change



Multi layer tube



Cross section

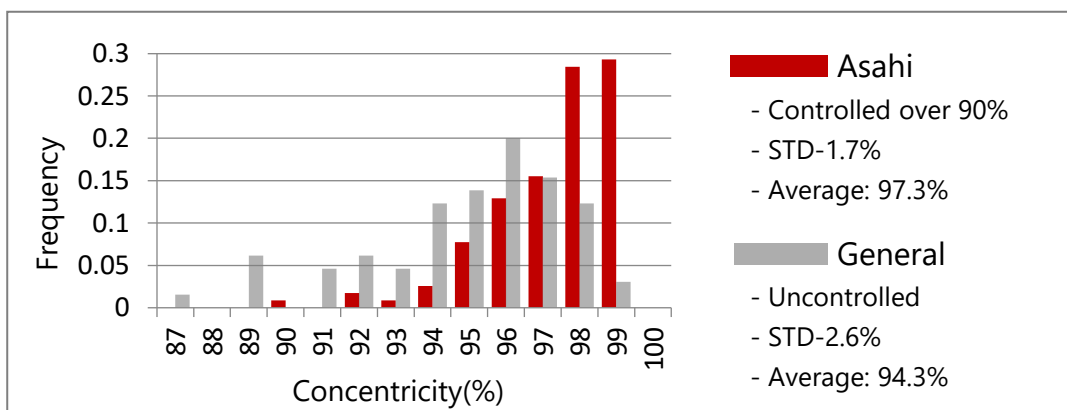


Our Multi layer tube, with high concentricity (more than 90%), enables the catheter to handle high pressures consistently and effectively. With the co-extrusion process, unlike welded tubing, our seamless precision tubing meet critical design tolerance. Ideal for the application requires handling high pressure evenly, such as a balloon catheter, for ensuring a tight fit between balloon and blood vessel.

Specifications

Wall thickness :	0.0020" – 0.0047 (0.05 – 0.12mm)
Outer diameter :	0.016" - 0.039" (0.4 - 1.0mm)
OD tolerance :	± 0.0008" (±20µm)
Material :	General purpose resin (HDPE, PA, PA Elastomer, TPU etc.)
No. of layers :	2 or 3 layers, all different polymers possible
Supplied with :	cut length (Max. 1500mm)
Available layer ratio :	inner 10 - 20%, middle 10 - 80%, outer 10 - 70%

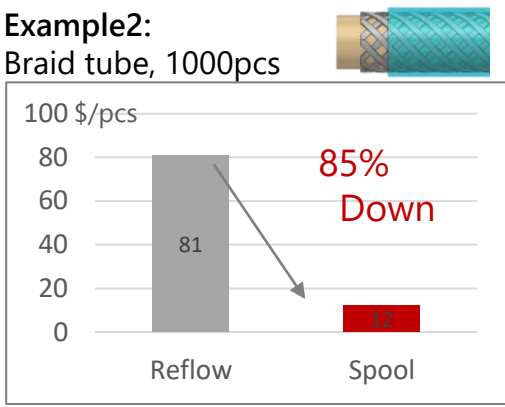
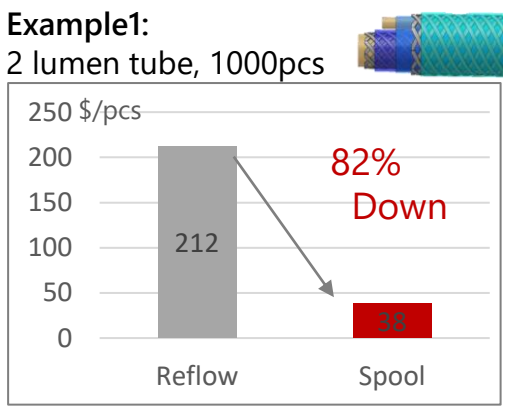
Concentricity of 3 layer tube, Asahi vs General (internal investigation)



Continuous spooling process

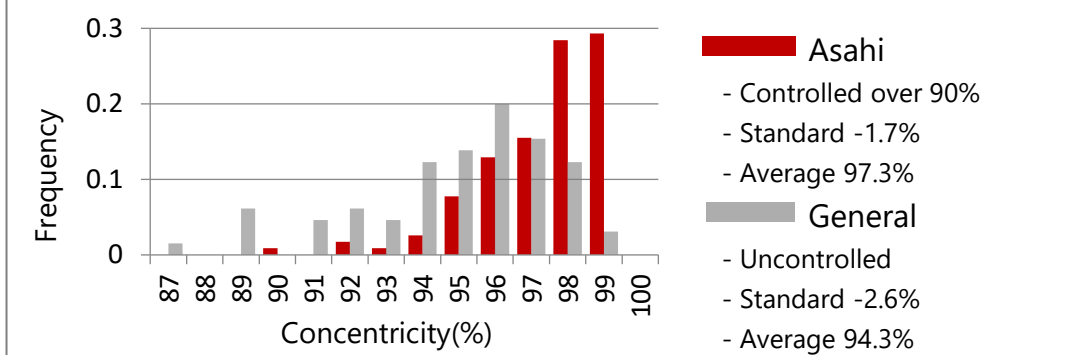
Benefits

1. Cost saving 80% cost down compare to reflow (one by one process).



2. High Concentricity

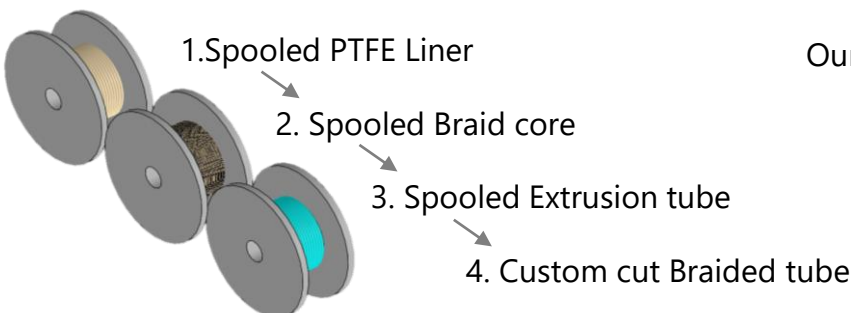
Example: Concentricity of 3 layer tube, Asahi vs General tubing (internal investigation)



3. Tighter tolerance

- PTFE Liner: Tighter tolerance $\pm 0.00008''$ (2 μ m), Ultrathin wall (0.0003" - 0.0005")
- Tube: OD tolerance $\pm 0.0004''$ (10 μ m), Concentricity 90% or more

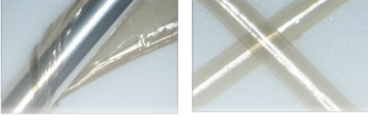
Products



Our products are available as continuous-spooled or custom cut.

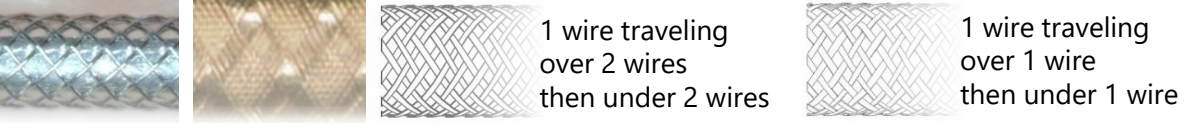
Product specifications

1. PTFE Liner



- Supplied on spool with silver-plated copper-core mandrel
- Tightly controlled wall tolerance: ±0.00008" (±2µm)
- Pin hole check on the entire length (Marking at the pin hole .)
- Inside diameter: 0.01" – 0.11" (0.3mm – 2.8mm)
- Optional etched or thermoplastic tie layer for adhesion

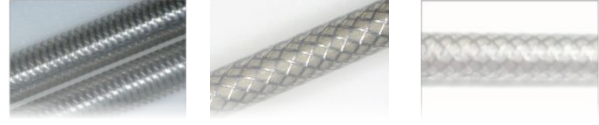
2. Braid



Carrier number	16 braid standard: 2 over / 2 under PPI:10-400	8 braid 1 over / 1 under PPI:10-400	48 braid standard: 2 over / 2 under PPI:30-1200	24 braid 1 over / 1 under PPI:30-1200
Material	SS304	Min Limit <u>Round wire</u> 0.00165"/40um	<u>Flat wire</u> 0.001"x0.002" / 25um x 50um	1 or 2 wire each carrier
	Tungsten	Min Limit <u>Round wire</u> 0.0005"/10um	<u>Flat wire</u> 0.0002"x0.0016"/ 7um x40um	1 or 2 wire each carrier
	66PA	Only	0.0007" x 7 wire / 18um x 7 wire	1 or 2 wire each carrier
	LCP	Only	0.0007" x 6 wire / 18um x 6 wire	1 or 2 wire each carrier
	PEEK	Min Limit <u>Round wire</u> 0.0020"/50um	Flat wire NA	1 or 2 wire each carrier
	PPS	Min Limit <u>Round wire</u> 0.0022"/56um	Flat wire NA	1 or 2 wire each carrier
	PFA	Min Limit <u>Round wire</u> 0.0039"/100um	Flat wire NA	1 or 2 wire each carrier

3. Extrusion tube

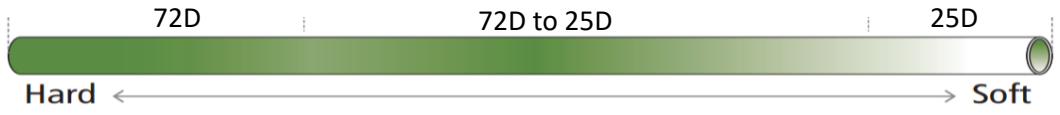
- ID/0.01"-0.11" (0.3-2.8mm)
- OD/0.013"-0.14" (0.33-3.5mm)
- Length/MAX 110" (2800mm)



- Material Nylon-Pebax® Poly Urethane-Pellethane® LLDPE ETFE-C-88AXB®
- Nylon-Vestamid® Poly Urethane-Tecothane® HDPE PFA-P-62XP®
- Nylon-Grilamid® Poly Urethane-TECOFLEX® LDPE EFEP-RP5000®
- Nylon-Rilsamid® Poly Urethane-Carbothane® PVDF-kyner®
- Poly Urethane-Isoplast® PEEK-381G® Etc...

Option1: Variable durometer

With variable flexibility along their length, this tubing may be used where a proximal push and rotation along with a delicately soft tip is desirable to access the treatment area. For the benefit of seamless flexibility and streamlining process, used to replace manually connecting joint tubing



Option2: Radiopaque resin tube

This tubing may be used where tip, marker and distal tube. It shows excellent radiographic visibility comparable to Ptlr.

