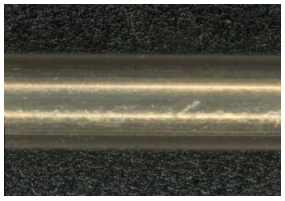
Tie layer

Actual Product image



Our Tie layer coating on PTFE Liner enhances adhesion between the outer jacket and inner liner to reduce delamination. Our continuous spool to spool process on the silver-plated copper-core mandrel realizes exceptional consistency with tighter tolerance that streamlines your catheter manufacturing through the entire catheter assembly process.

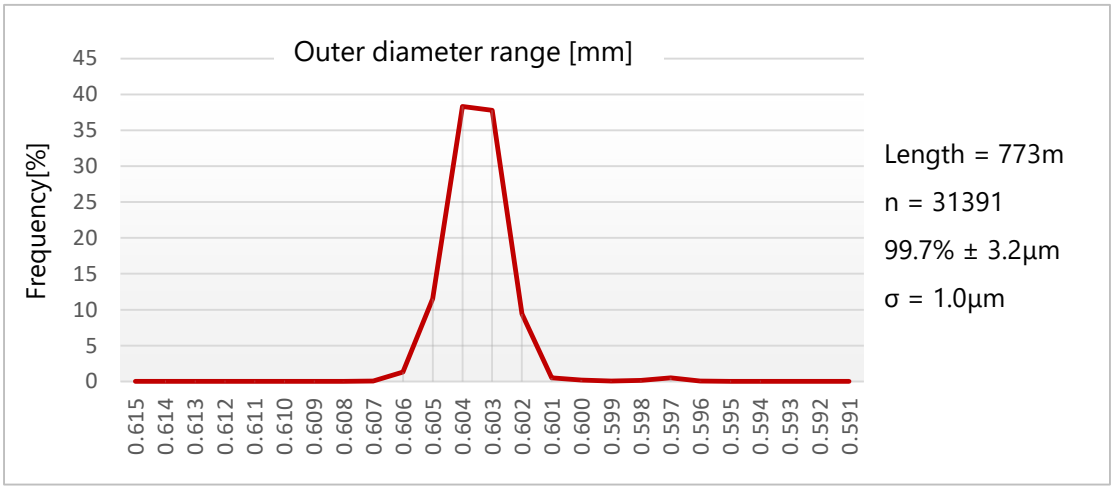
Specifications

- Thin wall: Min. 8µm (0.0003”)
- Wall tolerance: ±5µm (±0.0002”), depend on material
- Inside diameter: 0.01” - 0.11” (0.3mm - 2.8mm)
- Material: Pebax®. Vestamid®, Tecothane®, Tecoflex®, Carbothane®, etc.
- Supplied: Spooled up to 1500meter, or cut length up to 2800mm (110”)

Outer diameter range consistency

Our continuous spool-to-spool process realizes exceptional consistency.

99.7% is within range (± 3.2µm) with actual data of Tie layer on PTFE Liner as below.



PTFE Liner

Actual Product image

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 spooling 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" (8µm - 13µm)
- Wall tolerance: ±0.00008" (±2µm)
- 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)

Supplied on spool

Quality control

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

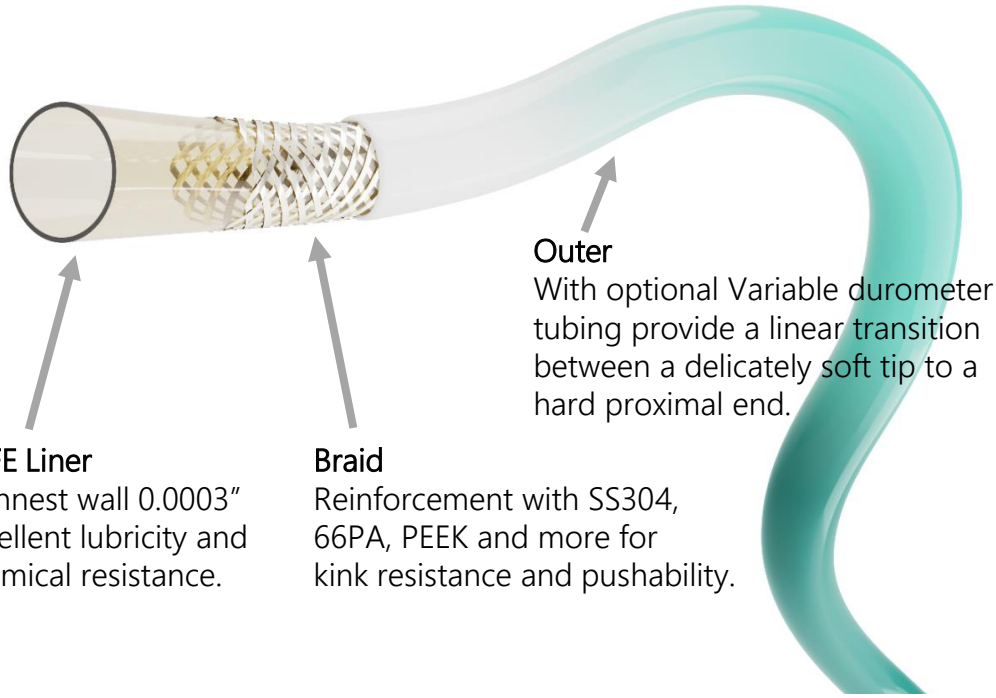
Tie layer enhances Adhesion

PTFE liner can be supplied with etched or a thin thermoplastic Tie layer (8µm) to enhance adhesion. Option of cut lengths or continuous-spooled 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.

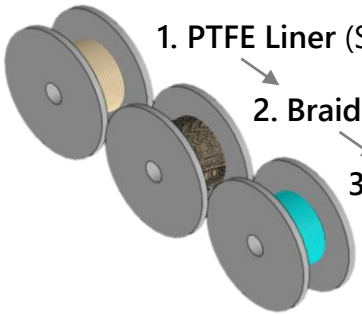
Braid-Reinforced Shaft



With our continuous spooling process ensuring exceptional consistency with tighter tolerance, we can design, develop, and manufacture engineered shaft for a complex catheter. The shaft is designed to balance flexibility, pushability, kink resistance, and more, with our capability in a wide range of materials, including PTFE, Pebax®, PA12, stainless steel, etc.

Shaft specifications

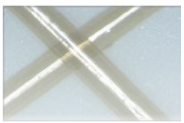
Wall thickness :	Min. 0.003" (0.08mm)
Inner diameter :	0.012" - 0.11" (0.3 – 2.8mm)
Outer diameter :	0.018" - 0.14" (0.46 – 3.5mm)
Typical application :	Micro catheter, Delivery catheter
Medical field :	Neuro, Peripheral, Interventional Oncology
Supplied :	Continuous-spooled or cut length, details below



1. **PTFE Liner** (Spooled only)
2. **Braided core** (Spooled or cut length)
3. **Outer extrusion tube** (Spooled or cut length)
4. **Braid-Reinforced Shaft** (cut length)

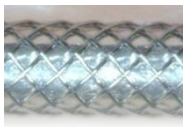
Detail specifications of each product

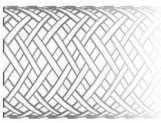
1. PTFE Liner



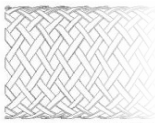
-Supplied on spool with silver-plated copper-core mandrel
-Tightly controlled wall tolerance: ±0.00008" (±2μm)
-Pin hole check on the entire length (Marking at the pin hole .)
-Inside diameter: 0.01" – 0.11" (0.3mm – 2.8mm)
-Optional etched or thermoplastic tie layer for adhesion

2. Braid





1 wire traveling over 2 wires then under 2 wires

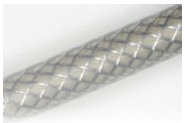


1 wire traveling over 1 wire then under 1 wire

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**	**Round wire** 0.00165"/40um	**Flat wire**	0.001"x0.002" / 25um x 50um	**1 or 2 wire each carrier**
		Terminal treatment: laser weld or laser cut with marker				
	Tungsten	**Min Limit**	**Round wire** 0.0005"/10um	**Flat wire**	0.0002"x0.0016"/ 7um x40um	**1 or 2 wire each carrier**
		Terminal treatment: laser weld or laser cut with marker				
	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**	**Round wire** 0.0020"/50um		Flat wire NA	1 or 2 wire each carrier
	PPS	**Min Limit**	**Round wire** 0.0022"/56um		Flat wire NA	1 or 2 wire each carrier
	PFA	**Min Limit**	**Round wire** 0.0039"/100um		Flat wire NA	1 or 2 wire each carrier

3. Outer extrusion tube

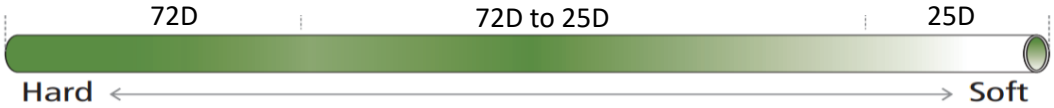
-ID/0.01"-0.11" (0.3-2.8mm)
-OD/0.013"-0.14" (0.33-3.5mm)
-Length/MAX 110" (2800mm)

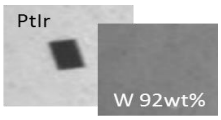
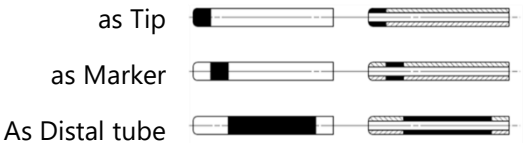


-Material	Nylon-Pebax®	Poly Urethane-Pellethane®	LLDPE	ETFE-C-88AXB®
	Nylon-Vestamid®	Poly Urethane-Tecothane®	HDPE	PFA-P-62XP®
	Nylon-Grilamid®	Poly Urethane-TECOFLEX®	LDPE	EFEP-RP5000®
	Nylon-Rilsamid®	Poly Urethane-Carbothane®		PVDF-kyner®
		Poly Urethane-Isoplast®		PEEK-381G® Etc...

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 PtIr.