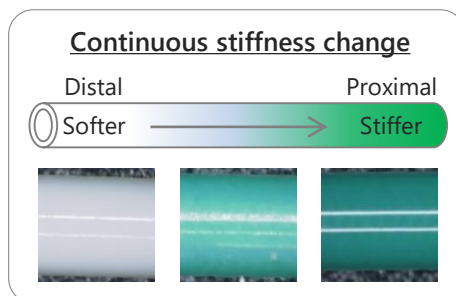


Variable Durometer tube

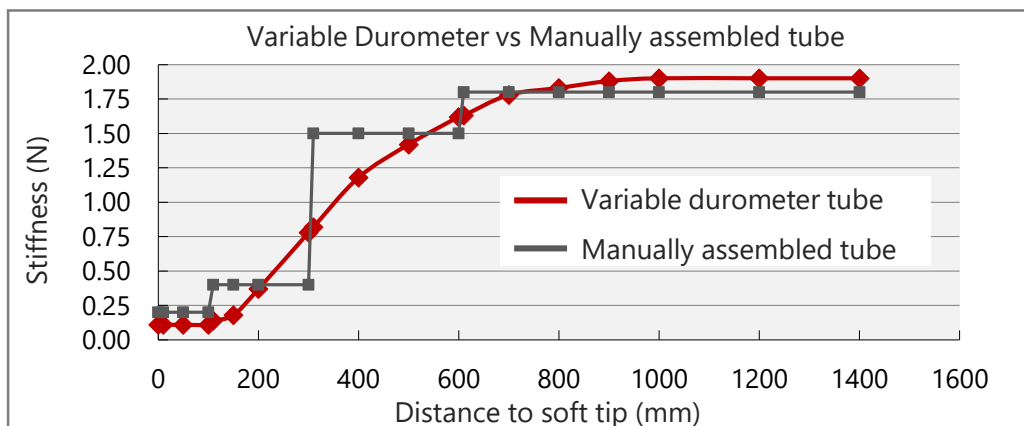


Variable durometer throughout the tube's length provides a linear transition between a delicately soft tip with a hard proximal end. Our continuous extrusion process eliminating labor and welded points of the manually assembled tube, causing the misaligned segment to fail, bring seamless transition, reducing cost, and better blood vessel trackability to your catheter. This process also can be validated and less susceptible to lot-to-lot variations. Ideal for catheter required soft tip with pushability at a proximal end.

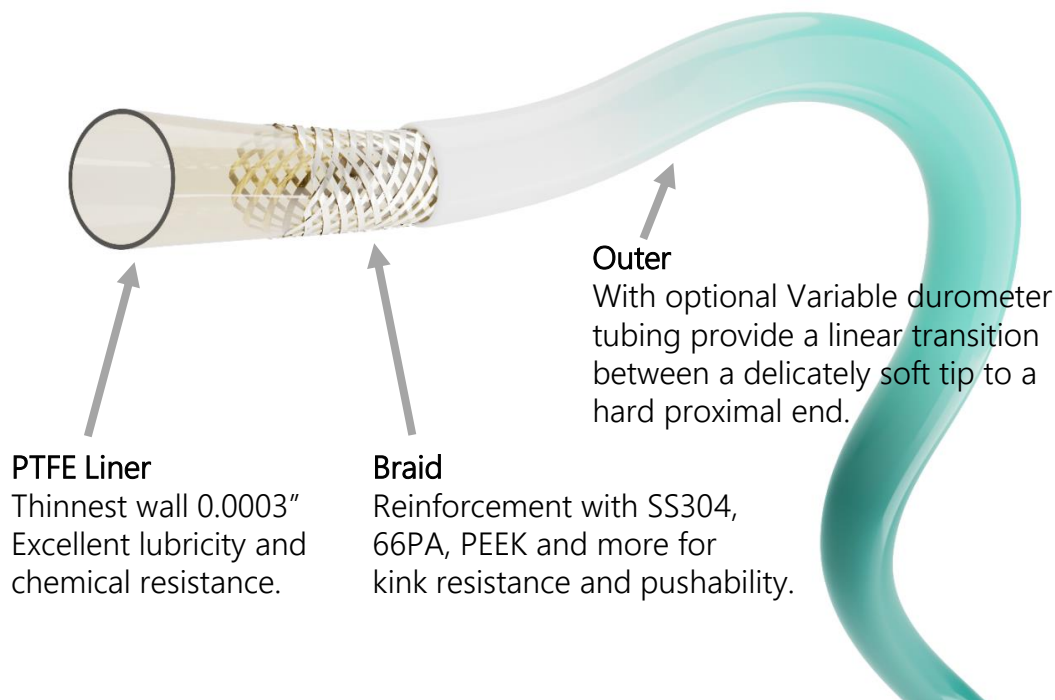
Specifications

- Inner diameter : 0.03 - 0.04" (0.80 - 1.09mm) at transition length 400mm
0.05 - 0.10" (1.33 - 2.66mm) at transition length 200mm
- Wall thickness : Min. 0.0024" (0.06mm)
- Material : Pebax®, Vestamide®

Example of continuous stiffness change



Braid-Reinforced Shaft



PTFE Liner

Thinnest wall 0.0003"
Excellent lubricity and
chemical resistance.

Braid

Reinforcement with SS304,
66PA, PEEK and more for
kink resistance and pushability.

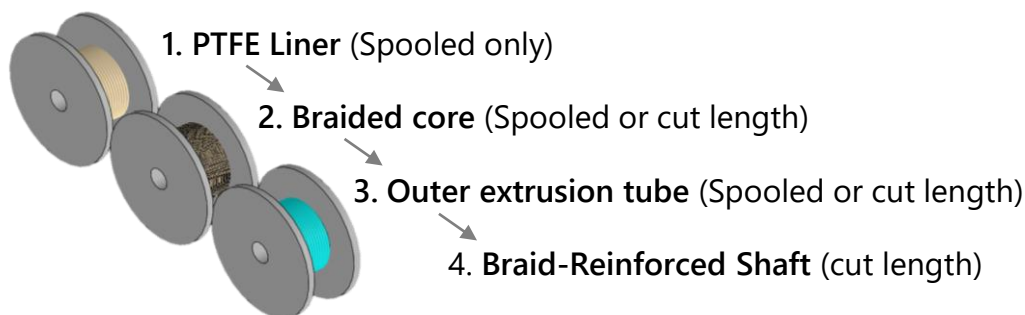
Outer

With optional Variable durometer
tubing provide a linear transition
between a delicately soft tip to a
hard proximal end.

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.

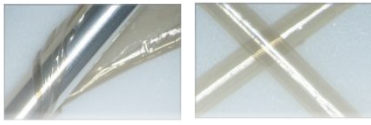
Shaft specifications

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



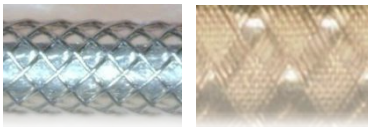
Detail specifications of each product

1. PTFE Liner



- Supplied on spool with silver-plated copper-core mandrel
- Tightly controlled wall tolerance: $\pm 0.00008''$ ($\pm 2\mu\text{m}$)
- 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



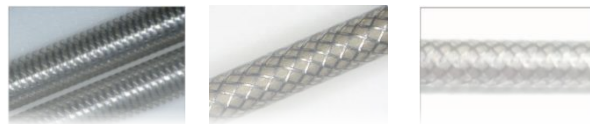
1 wire traveling over 2 wires then under 2 wires

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

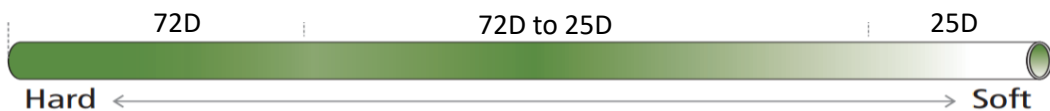
- ID/0.01"-0.11" (0.3-2.8mm)
- OD/0.013"-0.14" (0.33-3.5mm)
- Length/MAX 110" (2800mm)



- 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 Ptlr.

