Tubing Products

PFX FLEX™ Sub-Lite-Wall™

Super-Thin-Walled PTFE-Alternative Catheter Liners

Overview-

For decades, PTFE catheter liners have been the gold standard for most catheter designs due to their exceptional lubricity, flexibility, and ability to be produced with super-thin wall thicknesses below 0.005″ (0.127 mm). However, PTFE has some well-known characteristics that device makers must consider when developing devices, such as difficulty with bonding and having limited sterilization options. These considerations, combined with regulatory uncertainties and sustainability initiatives, have led to an increased demand for an alternative material that addresses these long-standing challenges.

Engineered as an alternative to film-cast PTFE, PFX Flex™ Sub-Lite-Wall™ is a next-gen catheter liner that delivers proven lubricity, enhanced bond strength, and expanded sterilization options – all without PFAS.[1] In addition to providing PTFE-like performance, PFX Flex™ Sub-Lite-Wall™ liners offer inherent sustainability benefits, helping to deliver design freedom, manufacturing flexibility, and compliance confidence in a world moving beyond PFAS.

PFX Flex™ Sub-Lite-Wall™ liners are supplied over a mandrel in cut lengths up to 86″ (2184.4 mm). PFX Flex™ Sub-Lite-Wall™ liners do not require surface etching for jacket-to-liner bonding and can be sterilized by e-beam, gamma, and EtO.[2]

QUALITY & PERFORMANCE

ENHANCED STERILIZATION OPTIONS

FUTURE-READY SUPPLY

PFX Flex™ Sub-Lite-Wall™ liners can be sterilized via multiple methods, including e-beam, gamma, and EtO.[2]

APPLICATIONS

- Catheter liners used in:
  - Thrombectomy catheters
  - Electrophysiology catheters
  - Micro coil delivery catheters
  - PTA and PTCA angioplasty catheters
  - Steerable catheters

CAPABILITIES AND SIZING

- IDs 0.013″ – 0.387″ (0.330 mm – 9.830 mm)
  - IDs ≤ 0.0915″ (≤ 2.3241 mm) supplied over SPC wire or PEEK mandrel
  - IDs ≥ 0.0916″ (≥ 2.3266 mm) supplied over PEEK mandrel
- Nominal wall thicknesses 0.0015″ – 0.003″ (0.038 mm – 0.076 mm), depending on ID
- Tolerances as low as ± 0.0005″ (± 0.0127 mm)
- Bondable to Pebax®, Nylon, Polyurethane, Polyethylene
- Compatible with traditional catheter manufacturing processes and materials

KEY PROPERTIES

- PE-based
- USP Class VI approved
- E-beam, gamma, EtO sterilizable[2]
- PTFE-like lubricity and flexibility with enhanced bond strength[2]

Note: The visual appearance of PFX Flex™ Sub-Lite-Wall™ liners may vary slightly depending on lighting conditions, liner dimensions, and the mandrel used.

PFX Flex™ Sub-Lite-Wall™ Liners

All PFX Flex™ Sub-Lite-Wall™ liners are produced based on customer specifications, and the chart below is a general capability guide.

PFX FLEX™ SUB-LITE-WALL™ LINERS	
Material	PFX Flex™
Process	Proprietary Film-Cast
Inside Diameter (ID)	0.013″ – 0.387″ (0.330 mm – 9.830 mm) Additional Sizes Upon Request
ID Tolerance	± 0.0005″ – 0.002″ (± 0.0127 mm – 0.051 mm)
Nominal Wall Thickness	0.0015″ – 0.003″ (0.038 mm – 0.076 mm)
Wall Tolerance	± 0.0005″ (± 0.0127 mm)
Cut Length	86″ Max. (2184.4 mm Max.)
Sterilization Methods	EtO, E-Beam, Gamma

The table below provides a general overview of the differences between materials used in various Zeus liners. The information is provided for reference only. Users should evaluate materials to confirm suitability for their specific application.

PFX FLEX™ LINERS VS. PTFE LINERS[2]			
	PFX Flex™	Film-Cast PTFE	Free-Extruded PTFE
Lubricity	★★★★★	★★★★★	★★★★★
Strength	★★★☆☆	★★★☆☆	★★★★★
Flexibility	★★★★★	★★★★☆	★★★☆☆

[1] PFX Flex™ Sub-Lite-Wall™ liners are made using a non-fluorinated polymer resin alternative to PTFE and without the intentional addition of any per- or polyfluoroalkyl substances (PFAS). Independent third-party laboratory analysis on representative samples of PFX Flex™ Sub-Lite-Wall™ liners has confirmed total fluorine levels of less than 20 ppm in liner samples analyzed.

[2] Based on test report, comparing PFX Flex™ vs. PTFE Catheter Liners. January 2026.