

Sub-Lite-Wall™ Multi-Lumen

Ultra-Thin-Walled PTFE Multi-Lumen Tubing

Overview-

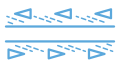
The design and production of steerable and deflectable catheters can be a difficult challenge, especially when manufacturers are required to procure and bundle several individual liners of varying sizes into a final catheter assembly. This delicate bundling process is time consuming and prone to error in both development and manufacturing settings.

Zeus PTFE Sub-Lite-Wall™ multi-lumen tubing helps simplify the process while eliminating multiple manufacturing steps and complex tooling by providing engineers a single, process-ready multi-lumen extrusion. Consisting of one large central lumen with one to four smaller satellite lumens, Zeus PTFE Sub-Lite-Wall™ multi-lumens enable advanced catheter designs with improved structural integrity, planarity, and other precision steering capabilities.

As a part of our Sub-Lite-Wall™ family of ultra-thin-walled extrusions, Sub-Lite-Wall™ multi-lumen tubing can be produced with 0.0035" (0.0889 mm) max average wall thicknesses.

Special Note:

All Sub-Lite-Wall™ multi-lumens are custom ordered to a drawing. Please see the "Design Your Sub-Lite-Wall™ Multi-Lumen" guide on the second page.



COEFFICIENT OF FRICTION



CHEMICAL RESISTANCE



CONTINUOUS SERVICE TEMP



Sub-Lite-Wall™ tubing helps simplify steerable catheter production and improve yields.

APPLICATIONS

- Steerable catheters used in:
 - Cardiovascular
 - Neurovascular
 - Peripheral
 - Structural Heart
 - CRM / EP

CAPABILITIES AND SIZING

- 1 large center lumen with 1-4 external satellite lumens
- ID lumen sizes from 0.010" to 0.300" (0.254 mm to 7.62 mm)
- External lumens available in round and elliptical shapes
- ID tolerances as low as $\pm 0.001"$ (0.025 mm)
- 0.0035" (0.0889 mm) max average wall
- Etched OD available upon request
- Cut lengths up to 86" $\pm 1"$
- Tie Layer available upon request (max cut length with Tie Layer is 72" $\pm 1"$)

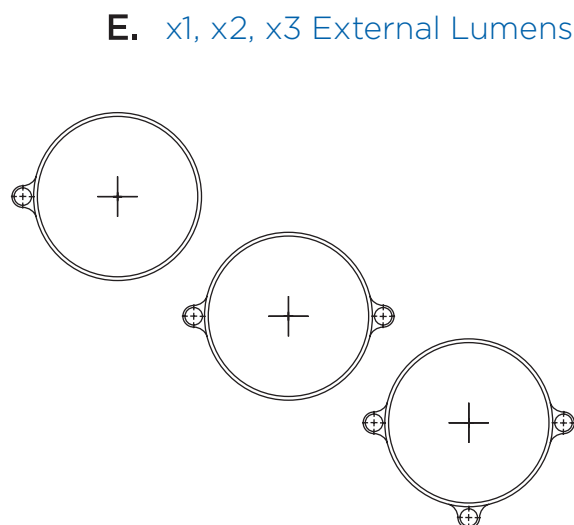
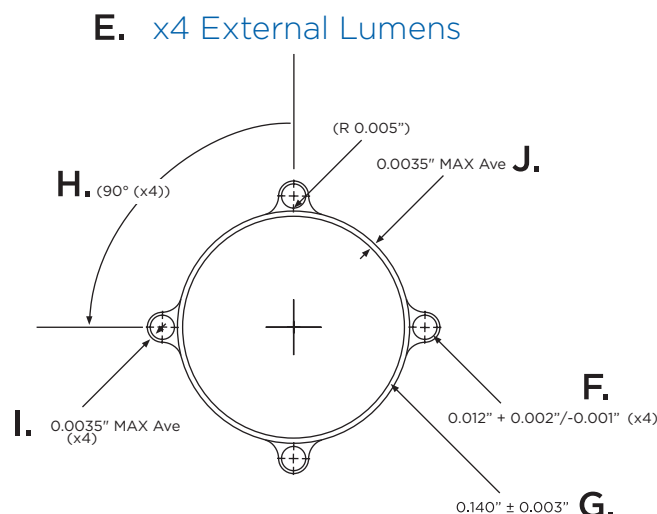
KEY PROPERTIES

- Class VI approved resins available
- Highly lubricious
- Working temperature to 260 °C (500 °F)
- Excellent dielectric strength / insulation properties



Design Your Sub-Lite-Wall™ Multi-Lumen

Below drawings are for reference only. Sub-Lite-Wall™ multi-lumens are available in multiple configurations. Satellite lumens can be internal, external, or embedded.



SPECIFICATION GUIDE TO DESIGN AND BUILD YOUR PTFE SUB-LITE-WALL™ MULTI-LUMEN: (See list of values and examples below)

| | Extrusion Specifications: | Enter Value: | Completed Example: |
|----|--|--------------|------------------------------|
| A. | Material | | PTFE |
| B. | Color | | Natural |
| C. | Etch OD | | Yes |
| D. | Tie Layer | | Yes; Tie Layer type: 55D |
| E. | Number of external lumens (1 to 4) | | x4 |
| F. | ID of external lumens (include tolerance) | | 0.012" + 0.002"/-0.001" (x4) |
| G. | ID of internal lumen (1) (include tolerance) | | 0.140" ± 0.003" |
| H. | Spacing between external lumens | | x4; Ref: 90 degrees |
| I. | Wall Thickness - external lumen | | 0.0035" MAX Ave Wall |
| J. | Wall Thickness - internal lumen | | 0.0035" MAX Ave Wall |
| K. | Cut Length (include tolerance) | | 72" ± 1" |
| L. | Tensile Target (as applicable) | | N/A |
| M. | Elongation Target (as applicable) | | N/A |
| N. | % Twist Target (as applicable) | | N/A |
| O. | Application | | |
| P. | Other (i.e. packaging, cleanliness) | | |

*Once completed, please attach your drawing and submit to your account manager for review.

