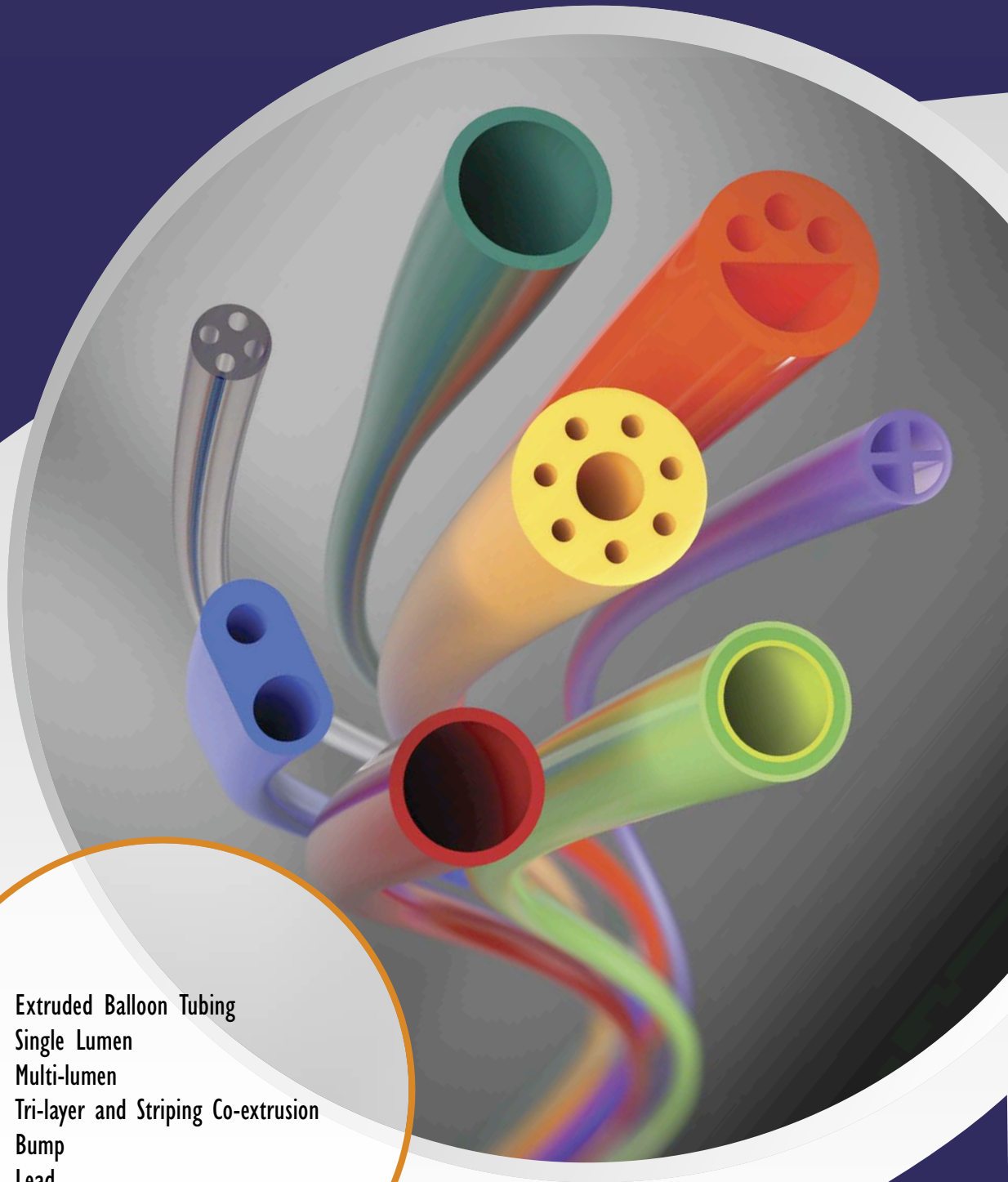


Interface Extrusion



- Extruded Balloon Tubing
- Single Lumen
- Multi-lumen
- Tri-layer and Striping Co-extrusion
- Bump
- Lead
- Welding Sleeves



Interface Extrusion

Quality, value, responsiveness, technical know-how, accountability, and speed are what our clients have come to expect from Interface Catheter Solutions. We bring the same level of commitment and expertise to every project, whether it is a prototype needed in a matter of days or a scheduled production run.

Our customers can expect:

- ◆ Rapid prototyping
- ◆ Verification of balloon tubing performance and manufacturability
- ◆ Full-service custom medical extrusion
- ◆ State-of-the-art machine shop for fabricating custom tools, dies and molds

The Interface Commitment to Quality:

Post-extrusion tubing products are evaluated for tensile, stretch, and dimensional quality. Our entire production process, from pre-inspections to extrusion and quality assurance, results in shorter cycle times.

Interface tested multiple lots from our extrusion process using three different methods of Limulus Amebocyte Lysate (LAL) testing for endotoxins. Results indicated that all tested lots were "pyrogen-free".

Engineering Capabilities

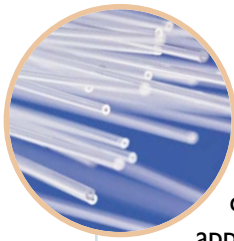
Interface is your proven partner, from concept development and prototyping to full-scale production.

Our extrusion capabilities include highly sophisticated equipment along with a comprehensive inventory of pin and die sets that give us the ability to offer a complete range of complex medical tubing. Interface highly skilled and experienced extrusion engineers and production team employ precise extrusion processes that deliver unparalleled performance characteristics and tight tolerance custom medical extrusion. Customers can expect to receive the optimal tubing and materials for high-yield manufacturing.

Our engineering and production teams have experience working with a wide variety of materials, including:

- ◆ PET
- ◆ Nylon
- ◆ Pebax
- ◆ HDPE
- ◆ LDPE
- ◆ LLDPE
- ◆ Hytrel
- ◆ Polypropylene
- ◆ EVA
- ◆ PVDF
- ◆ Polycarbonate
- ◆ Blends
- ◆ Radiopaque compounds
- ◆ Custom compounds

The ability to extrude a variety of medical tubing with lumens of various shapes and sizes along with custom profiles allow us to provide services for a wide range of medical device applications.

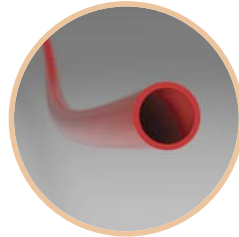


Balloon Extruded Tubing

This high quality tubing provides increased production yields and superior balloon performance characteristics for a variety of medical applications, such as neurovascular, coronary, and peripheral vascular. Performance characteristics include minimal wall thickness, improved burst pressure, and higher production yields.

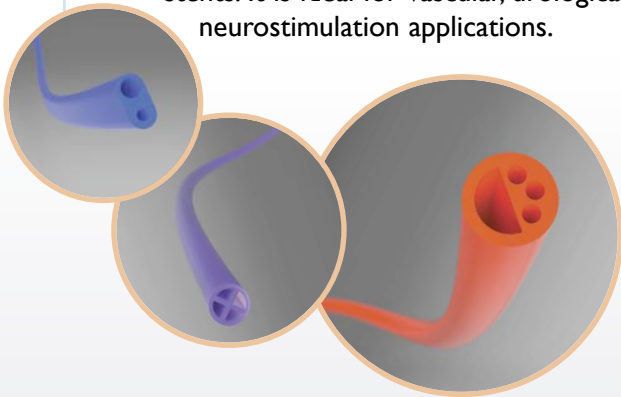
Single Lumen Tubing

Single lumen tubing, which consists of a single channel or “lumen” running through the center of the tube, has a wide variety of important medical applications. Interface single lumen tubing is available over a range of sizes, materials, and tolerances. The interior of the lumen can also be extruded to have a particular geometric shape, such as an oval, triangle, or square.



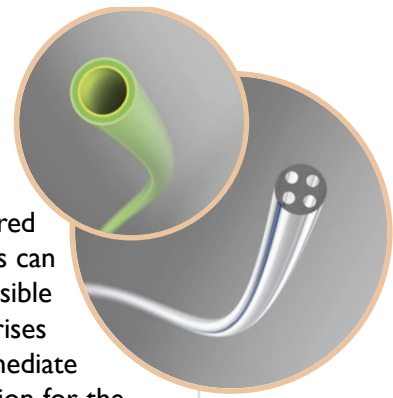
Multi-lumen Tubing

Multi-lumen tubing consists of two or more channels that can be custom-extruded into various shapes and profiles. This type of tubing is favored for minimally invasive diagnostic and therapeutic procedures, such as solution or drug delivery, inflating or deflating balloons and inserting stents. It is ideal for vascular, urological, and neurostimulation applications.



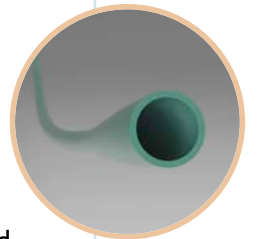
Tri-layer and Striping Co-extrusion

The co-extrusion process creates single lumen tubing with multiple layers of different materials, or colored stripes of the same material. Stripes can also contain radiopaque materials visible on X-rays. Tri-layer extrusion comprises an outer layer, core layer, and intermediate tie layer. Tri-layer provides low friction for the advancement of a guide wire or catheter through the lumen without comprising strength and stiffness. Interface extrusion processes ensure that the tie-layer is circumferentially present and there is no delamination between tubing layers.



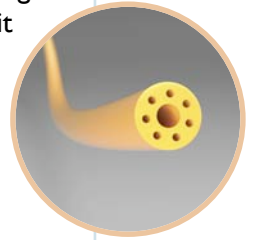
Bump Tubing

Bump tubing (also called tapered tubing) has different diameters at each end of the tube. The smaller diameter end is typically inserted into the body and the larger diameter end attaches to a medical device or equipment. Bump tubing varies widely in dimension and flexibility to fit a wide array of health care applications.



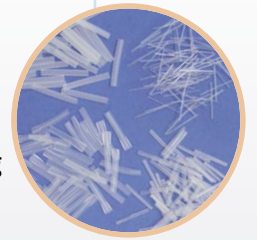
Lead Tubing

Lead tubing is a protective, insulating cover or sheath that protects the electrodes in medical devices that deliver an electrical charge. It is often used in medical equipment for cardiac rhythm management and neurostimulation.



Custom Welding Sleeves

Welding sleeves made from heat shrink tubing are used to help shape and form the bond between two thermally bonded materials. The heat shrink tubing is resistant to high temperatures and will not melt during the welding process. Our welding sleeves are easy to remove and are customized based on tubing material, diameter, and wall thickness.



Production

Our skilled extrusion production teams employ precision extrusion processes in a spacious, ISO13485:2003 - certified class 8 clean room.

Pre-extrusion steps involve examining the source material for defects, followed by cleaning and contamination filtering.

During the extrusion process, tubing diameter, pull speed, temperature, and extrusion pressure are continuously monitored, as are mechanical processes. Our experienced engineering team custom designs the best extrusion process for your production needs. The result is tubing with high-performance characteristics and tight tolerances.



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