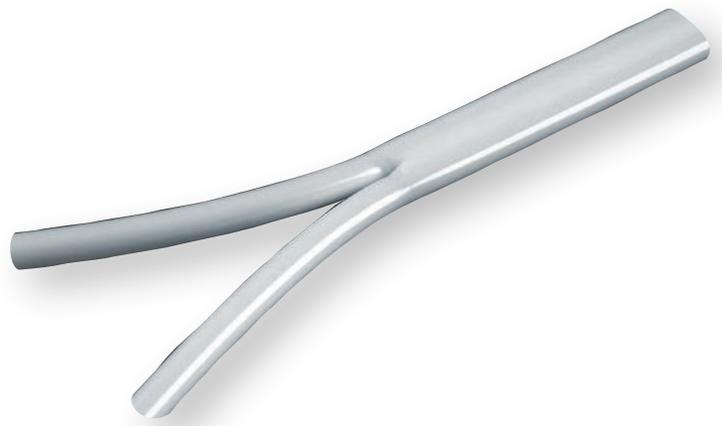


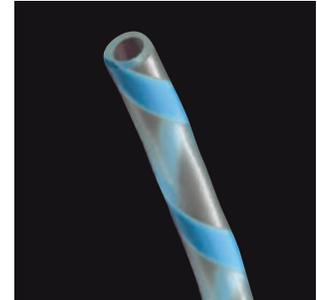
EXTRUSION



Silicone tubing, because of its unique biocompatibility and physical durability, plays a fundamental role in myriad healthcare applications. Inside the body it is used as insulation on electrical stimulation devices, as conduits for delivering and removing fluids, and as catheters for various types of interventional therapies. Outside the body it is ideally suited for applications including blood oxygenation as well as many pharmaceutical manufacturing processes.

SSF has been extruding tight tolerance silicone tubing since 1982 and our expertise in extrusion fabrication was forged, in part, by our clients' imagination and demand for precision. In 1983 SSF developed an innovative extrusion processes that move mandrel and die "on the fly" and today this technology, trademarked GeoTrans™, is synonymous with medical device innovation. We have over 30 years of experience in silicone medical device technology. Put us to work for your next project. Call 800.394.4284 (outside the us 001.805.239.4284).

With the exception of wound drains, all SSF extrusion is custom



fabricated to each client's unique specifications. The process typically begins in SSF's tool room with the precision manufacture of die and mandrel. Post-processing extrusion capabilities include services such as post curing, cutting, spooling, printing, drilling, and grinding. Here are 6 snapshots highlighting unique and pioneering extrusion capabilities that have earned SSF the trust and respect of medical device designers worldwide.

GeoTrans® - Game-Changing Technology

Conventional wisdom was once that any successful silicone extrusion process required mandrel and die, the tooling that forms the OD and ID of a tube, to remain rock-solid stationary throughout the extrusion process. Beginning in 1983 SSF turned conventional wisdom on its head. SSF Extrusion Engineers have developed a number of processes involving the movement of die and mandrel resulting in novel designs that eliminate secondary operations and reduce costs.

Multilumen Meets Miniaturization

With cardiac disease the #1 cause of death in the world, it's not surprising that the human heart gets a lot of attention within the medical device community. Over the last 20 years medical disciplines such as cardiac rhythm management and interventional cardiology have pioneered efforts involving the increased complexity and miniaturization of silicone medical devices. As a long-term partner, SSF has consistently developed extrusion technology required to meet the challenges of these innovators and their life-saving devices.

SSF Wound Drains

Silicone wound drains are often implanted at a surgical site to remove fluids and aid post-operative healing. Drains have typically been manufactured using 3 fabricated components that require subsequent assembly. As early as the mid-1980's SSF began to develop and optimize techniques that now allow us to manufacture complex drains in a continuous extrusion process. These patented processes allow SSF to produce the world's most sophisticated drains; manufacturing and inspection costs are reduced while quality and reliability are enhanced. Various types and sizes of unitary drains are available for purchase.

Silicone Foam Extrusion

SSF has developed a proprietary blowing agent that allows us to produce closed-cell silicone sponge that can be extruded in various client-specified cross-sections. We manufacture foam rod and tubes and also produce foam-jacketed extrusions as shown here. Pore size and foam density can be adjusted in several ways to meet your specific specifications. Silicone foam products play a major role in ophthalmology. SSF's unique foam extrusion expertise has been recognized since 2000 when we were awarded US patent 6,117,170 for the novel foam scleral band.

Kink-Resistant Tubing (KRT)

In many medical procedures silicone tubing provides a pathway for the introduction or elimination of fluids from the body. Medical tubing used for this purpose must meet a number of mechanical and functional requirements including adequate hoop strength, sufficient stiffness during insertion, and the flexibility to bend around and conform to various anatomical features. SSF's Kink Resistant Tubing (KRT) meets all these design requirements. Manufactured using a proprietary winding and over-jacketing process, SSF's KRT balances flexibility and hoop strength while guaranteeing open- lumen integrity.

Extruded Ribbon

Extruded ribbon can be a cost-effective alternative to silicone sheeting. SSF manufactures ribbon with a range of elastomeric properties and physical dimensions. Our continuous process allows extruded ribbon to be spooled onto various carrier substrates. Ribbon produced in this way can be subsequently punched or laser cut to form various components including check valves and other pressure sensitive medical devices.