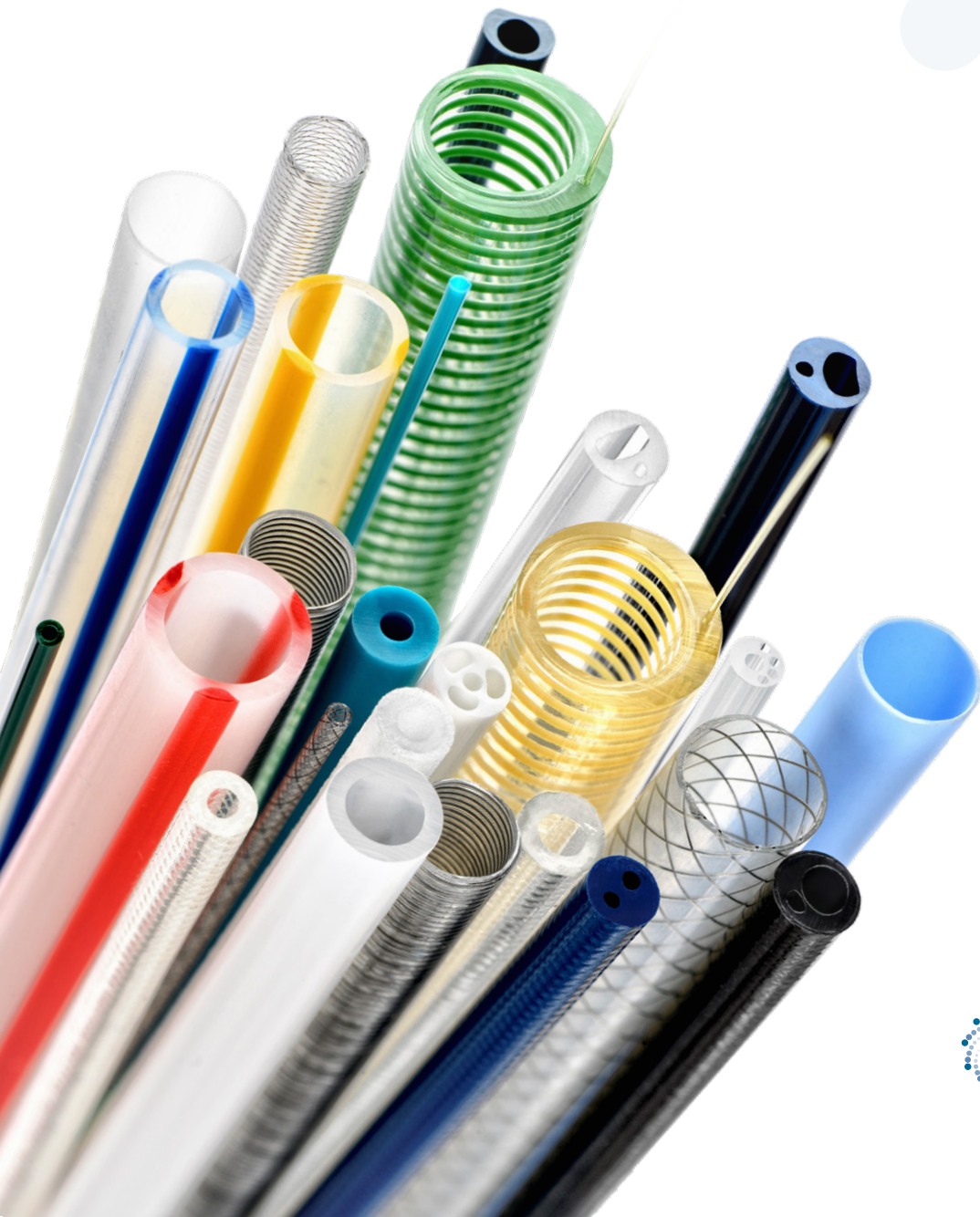
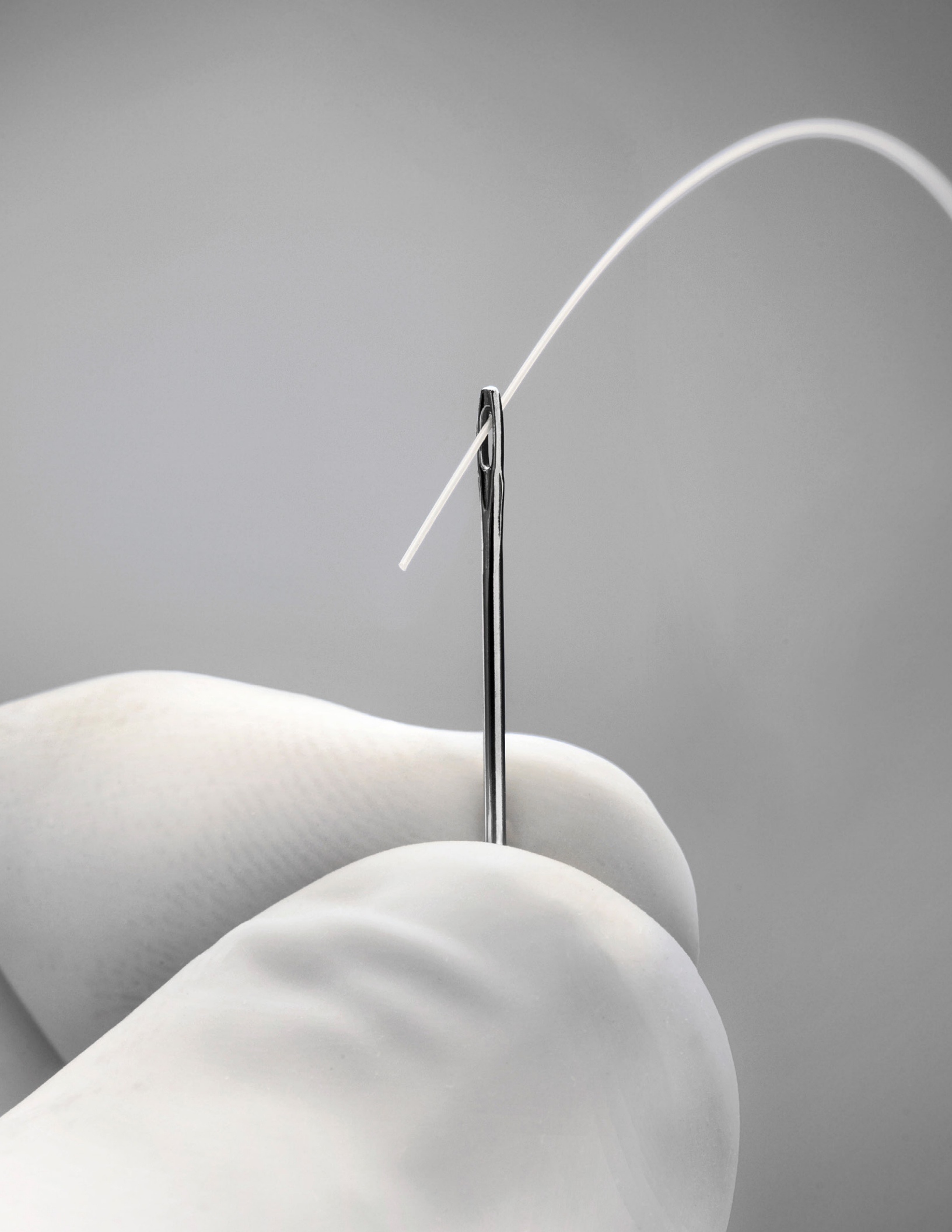


EXPECT MORE

HIGH PERFORMANCE • TIGHT TOLERANCE • COMPONENT SOLUTIONS



 **SPECTRUM**
PLASTICS GROUP
A TRUSTED SOURCE FOR MEDICAL PLASTICS



GET **MORE** FROM SPECTRUM PLASTICS

Spectrum Plastics' Specialty Products operations feature tight tolerance, high performance plastics manufacturing for some of the most invasive medical device settings. From structural heart to arthroscopy, from PEEK extrusion to bioresorbable composites, Spectrum Plastics brings to market some of the most advanced component manufacturing technologies to enable your next generation medical devices.

Our mission is simple, to be the industry's trusted partner. As the needs of the clinician, patient and device manufacturer have evolved, so has our approach—offering a broad array of solutions and expertise.

Spectrum Plastics Group offers advanced technologies, a global footprint, rigorous quality standards, and industry leading development and execution.

You can expect **MORE** from Spectrum Plastics because we comprehensively serve your most advanced plastic component, assembly, and design and development needs.

Visit [spectrumplastics.com](https://www.spectrumplastics.com) to learn more.



PRODUCTS & CAPABILITIES

Off-The-Shelf Tubing

- We are your one stop catheter solutions store by offering several hundred configurations of single and multi-lumen tubing and catheter components.
- Single lumen and multilumen extrusions are offered in PEBA, Nylon 12, PEEK and TPU materials. Bead extrusions are offered in Super Lubricious PEBA and LDPE materials.
- Spectrum Plastics is the starting point for medical device development requiring critical catheter components. Our Off-the-Shelf tubing and components are available via our webstore to accelerate the design and development of your next project.

Adam Spence® High Pressure Braided Tubing

Spectrum is the world's leading manufacturer of high pressure braided tubing (HPBT) for vascular balloon inflation, contrast injection and vacuum procedures.

Overmolding

Consistently enhancing our processes to bring new innovations to overmolding and rapid prototyping, Spectrum Plastics increases your speed to market.

Microbore / Multilumen Extrusion

Our precision extrusion specialties include microbore single and multilumens, Apollo® sub-ultra-thin-wall tubing, mandrel core, and complex profiles.

Catheter Components & Design Solutions

Whether micro, reinforced, or steerable and/or deflectable catheters, Spectrum Plastics Group has your solution.

Injection molding

From micro- to insert-, across PEEK, polysulfone, and bioresorbable composite, we are a benchmark leader in implantable plastics injection molding.

Clean Room Operations

We offer the full range of post-extrusion and molding technologies, providing our customer with a comprehensive solution, from component to device.





SPECTRUM SERVICES

Prototyping, Design & Development

Fast, cost-effective, and on time are three assurances we provide in prototyping, design and development. We have over 25 years of experience delivering finished, customized products.

Materials

We process all thermoplastic elastomers, as well as high temperature materials and fluoropolymers. Spectrum Plastics also manufactures silicone components, both tubing and liquid injection molding (LIM).

Fabrication/Secondary Operations

In order to streamline our customer's supply chain, we also offer a full range of post-process fabrication systems including assembly, sub-assembly, packaging and converting, tipping, centerless grinding, pad printing, laser welding, wire-reinforcing, precision cutting, and **MORE**.

Scalability

Our geographic footprint across 5 countries and 3 continents enables multiple points of manufacture and warehousing, providing you with the capacity to grow.

Quality Standards

With more than twenty ISO certified Class 7 or Class 8 clean rooms across our global footprint, in addition to multiple portable or soft-walled controlled environments, we're poised to precisely execute on cleanliness and process controls.

Manufacturing Transfers

We have successfully transferred existing customer devices to manufacturing in our facilities for over 25 years, helping our customers free up their resources, reduce costs and maintain desired product quality and quantity.





MARKET APPLICATIONS

Electrophysiology

From components to catheter assemblies aiding in the detection, diagnoses, and treatment of abnormal heartbeats or arrhythmia.

Structural Heart

As procedures advance to include more precise therapies for an array of heart diseases, we offer solutions to medical device engineers that address everything from angiography and access systems to aortic stenosis therapies and transcatheter heart valve delivery systems.

Biliary Catheters

Components and catheter assemblies for percutaneous drainage in a variety of applications (e.g., nephrostomy, biliary, and abscess).

MedSurg

Our comprehensive plastics manufacturing and assembly solutions support a wide range of surgical devices and general instrumentation.

Neurovascular

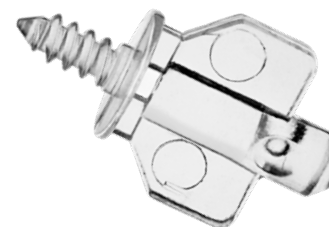
Our strong technical expertise enables us to partner with customers on the design and manufacture of neurovascular catheter components, assemblies and finished devices to exacting specifications.

Peripheral Vascular

We manufacture both injection molded and extruded solutions for vascular applications. Covering everything from microvascular anastoma to peripheral vascular catheter support microextrusions, our plastic solutions reliably facilitate and restore vascular therapies for patients worldwide.

Orthopedics / Sports Medicine

Spectrum Plastics manufactures components and assemblies for knee, shoulder, spine, and extremity surgical repair. We are a pioneer in the plastics manufacture of screws and fasteners that hold bone, tissue, and ligaments.



Manufacturing Facilities
Across Five Countries



High-Performance Medical
Plastics & Components



Technical Capabilities Unique
to the Medical Device Industry

Core Capabilities

- Single and Multilumen Microbore Extrusion
- Off the Shelf Tubing
- Thin-Wall / Balloon Extrusions
- Co-Extrusion
- Micromolded Components
- Bioresorbables
- Silicone Liquid Injection Molded Components
- Steerable and Deflectable Catheters
- Complex Earnan® Balloons
- Silicone Balloons
- Fluid Management Tubing
- VitalMED Plastic Components

Materials

- Pebax®
- Nylon
- Polyurethane
- Hytrel®
- Carbothane®
- Tecoflex®
- Chronothane®
- Pellethane®
- Silicone
- PEEK
- PAEK
- LCP
- PEI
- Polysulfone
- PPSU
- Radiopaque Materials
- Lubricious Compounds
- Glass Filled Polymers
- Fluoropolymers
- Polyethylene
- HDPE / LDPE / LLDPE
- Polypropylene
- PLLA / PLA / PLGA

* parts per year

Microbore Extrusion

- OD 0.001 min, 0.50" max
- Wall thickness: 0.0005" min to 0.170" max
- -Tolerances may vary depending on durometer, material, and size of extrusion
- Up to 20 lumens

Injection Molding

- Tonnage < 200
- Micro Molding
- Insert Molding
- 1,000 ≤ ppy* < 250K
- Precision In-House Tooling

Secondary Ops

- Tipping
- Printing
- Skiving
- RF Welding
- UV Bonding
- Tip Shaping
- Hole Punching
- Heat forming
- Assembly
- Flaring
- Finished Device
- Braided Catheter Shafts
- Coil-Reinforced Catheter Shafts
- Steerable Catheter Shafts
- Laminating
- Over-Molding
- Annealing
- Centerless Grinding

Fluid management tubing

- OD Range: 0.020" min – 1.25" max
- D Range: 0.010" min to 1.20" amx
- Tolerances may vary depending on durometer, material, and size of extrusion
- Up to 6 lumens depending upon size of material

Locations

- Athol, MA
- Glens Falls, NY
- Heredia, Costa Rica
- Johor, Malaysia
- Mexicali, Mexico
- Minneapolis, MN
- Nogales, AZ
- Pittsfield, MA
- Pleasant Prairie, WI
- Reynosa, Mexico
- San Clemente, CA
- San Diego, CA
- Sandy, UT
- Wexford, Ireland
- Tucson, AZ
- Tullamore, Ireland
- Wall, NJ

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Visit spectrumplastics.com for more information.