

Advanced Materials + Manufacturing Critical- to-Function Parts

*Bringing demanding medical
designs to the market faster
with superior quality.*



Medical Components

Specialists in high performance elastomer + thermoplastic custom components

Capabilities

Materials Science + Formulation

- Fully Staffed In-House Advanced Materials Laboratory
- Hundreds of Custom Elastomer Formulations Tested to Standards USP Class VI, USP<381>, Ph. Eur. 3.2.9, and ISO 10993

New Product Design + Development

- Mold flow, FEA, DFM, Tool Design, Prototyping
- 7 Stage NPD Process from opportunity Assessment to production Control

Manufacturing, Testing + Assembly

- Sterile Packaged Assembly Capabilities
- Comprehensive Advanced Molding Techniques
- High Speed Automated Vision Inspection Systems

Operational Excellence + Supply Chain Consolidation

- Worldwide Manufacturing + Design
- Quality Control
- Program Management
- Scalable ISO Class 7 and 8 Clean Room Manufacturing

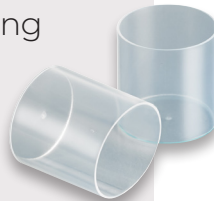
Ongoing Global Support + Localization

- Logistics Management
- Worldwide Dedicated Local Customer Support

*From design to delivery,
we take your medical device
business as seriously as we
take developing advanced
materials + manufacturing
critical-to-function elastomer
+ thermoplastic components*

APPLICATIONS

- Diagnostics
- Drug Delivery
- Diabetes
- Sterile Fluid Connectors
- Cardiovascular
- Surgical Instruments
- Structural Heart
- Cell Therapy





Application Highlight

Diagnostic Testing Systems—COVID-19, Cancer, Viruses, GI, Blood, + More

We partner with numerous medical companies to design and manufacture point-of-care diagnostic testing systems – ones critical to address immediate patient needs (such as those impacted by COVID-19).

Our quick, rapid response to align with customers with EUA (Emergency Use Authorizations) for their devices, brings accurate and reliable testing systems to the market in response to a global pandemic.

Likewise, we help develop and manufacture cancer diagnostic systems, including tissue-based diagnostic solutions and personalized treatment options like immunotherapies, which encourage the body's immune system to target and kill cancer cells.

Diagnostics

MATERIALS

EPDM, FKM Elastomer, HCR, LSR

Other diagnostics include:

- Blood culture identification
- Gastrointestinal conditions
- Meningitis
- Encephalitis
- Pneumonia
- and other viruses

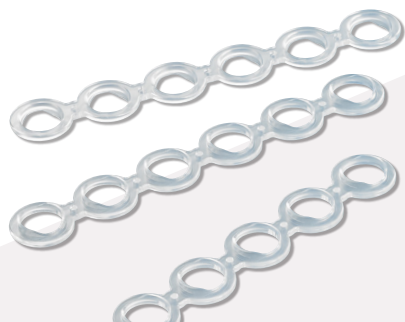


Benefits

Custom Materials + Components that Complement any Reagent

The biggest challenge to developing components for diagnostic testing is formulating materials that can sustain chemical reactions with our clients' proprietary reagents.

With reagents being deemed proprietary industry secrets, our chemists and scientists work methodically, yet swiftly, to find complimentary material to the company's reagent, all while maintaining component integrity.



Diabetes

MATERIALS

EPDM, HCR, LSR

Application Highlight

Custom Molded Rubber Seals for Insulin Delivery Systems

Providing medical device manufacturers with custom molded rubber seals for insulin pumps leaves no margin for system failures, such as leaks or material breakdowns.

Benefits

Lab-Developed Custom Rubber Seals that Hold Up for Years

Built to last insulin pump rubber seal formulations developed by our advanced materials group for long term insulin compatibility.

We work with customers to design and develop high-quality and reliable products to access critical care procedures.

Whatever the demand, our product development engineers collaborate with you to create specified designs and materials for cardiovascular applications.



In fact, our technical team of engineers and scientists develop and refine solutions for the most demanding applications, for example:

- Integrated assemblies
- LSR hemostasis slit valves

Insulin pumps are an example of many seal designs we specialize in for drug delivery devices.



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Surgical Instruments

MATERIALS

HCR, LSR, Overmold

Application Highlight

Custom Molded Surgical + Orthopedic Instruments

Minnesota Rubber & Plastics helps medical device companies design and manufacture advanced surgical and orthopedics devices. These include:

- Overmolded handles + devices
- Components + sub-assemblies for surgery
- Trocar seals + Endoscope components for Minimally Invasive Surgery (MIS)
- Single-use devices for cardiovascular + orthopedic + general surgical procedures
- Mixing + delivery systems seals + components



Our products can be listed with the FDA as a DMF and MAF.:

- Polyethersulfone grades—resist chemicals and bodily fluids including;
 - Enzymatic soaking agents
 - High-level disinfectants
 - Blood reagents + anesthetics.

We've worked for years with medical device manufacturers and designers providing a spectrum of colors and polymers that offer these features at elevated temperatures:

- Sterilizability
- Durability
- Bond Integrity
- Biocompatibility
- Hydrolytic stability
- Chemical compatibility



Benefits

Advanced Polymers Retain 85%–100% Hydrolytic Stability

Both transparent and opaque molded colors with our polymers (which gives designers and companies unlimited options for customizing colors) help you comply with your brand standards.

Designers can use transparent color combinations to create modern, vibrant effects. All materials can be autoclaved for repeated use. In fact, our polymers retain 85%–100% hydrolytic stability after long-term exposure (two years continuous). Therefore, surgical instruments and devices last longer—over thousands of procedures.



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Turnkey Engineering with Design Services Save You Time + Costs

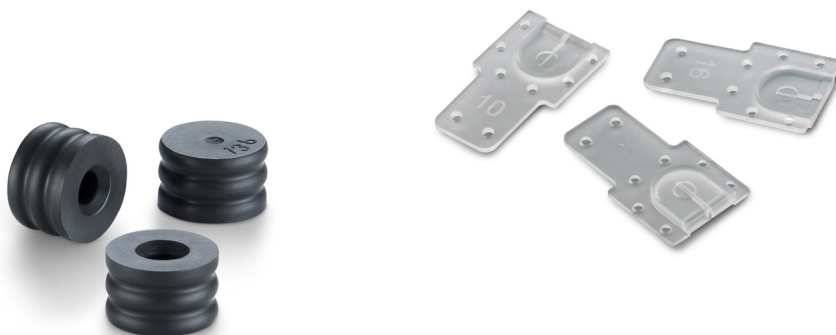


To help you create custom solutions that solves your medical device engineering challenges, we offer a broad spectrum of design services, such as:

- Mechanical design + DFM review
- Materials analysis; specialty elastomer compounds
- Design + development
- Prototyping services
- Metal-to-plastic + plastic-to-plastic conversions
- Laser marking + pad printing
- Ultrasonic welding
- Functional + leak testing

From proposal through design to delivery, we take your business as seriously as we take molding advanced materials and manufacturing critical-to function parts.

- Custom Rubber, LSR + HCR Silicone
- Integrated Assemblies
- High-Performance Plastics



Contact us today **to learn more**

Our Global Manufacturing + Supply Chains
Put You Closer To Your Customers

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