



CASE STUDY

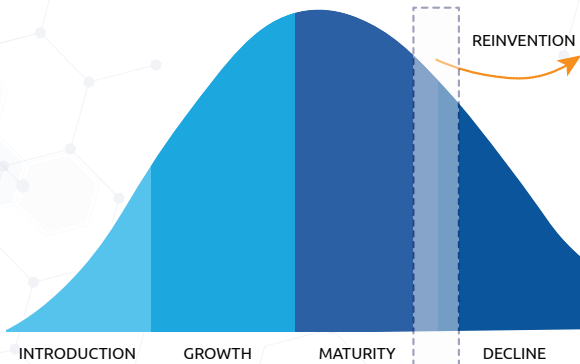
Innovation in Custom Polyurethane Formulation

SUMMARY:

A major OEM had a catheter product that successfully established itself as a strong competitor in the medical device market. Evolving regulations, combined with their previous vendor discontinuing material customizations, prompted the OEM to turn to Biomerics for a new material solution. To ensure the catheter product's continued success, Biomerics and the OEM collaborated to select a new material from Biomerics' Quadraflex® line. Biomerics iterated quickly, customizing the polymer to the OEM's exact specifications. These material enhancements have improved product performance, adapted the product to evolving industry demands and reinforced the OEM's position as a leader in the catheter space.



PRODUCT LIFE CYCLE STAGES



CHALLENGE:

A leading medical device company, known for their high-value catheter products, had long depended on polyvinyl chloride (PVC) as a key material. However, with evolving regulatory requirements, they needed an alternative that maintained both product integrity and industry standards. At the same time, the company's trusted vendor announced the discontinuation of material customizations, further accelerating the need for a new material supplier.

SOLUTION

As part of their search for an alternative high-performance material, the customer reached out to Biomerics' Performance Materials team to learn more about our Quadra™ family of medical polyurethanes. Together, we explored solutions within the Quadraflex® product line of polyurethanes and identified Quadraflex® ARE as a seamless replacement that met their specifications. Quadraflex® ARE offered similar properties to the previous vendor's material, and our team was able to further customize the material for our customer. In the weeks that followed, Biomerics' materials team collaborated with the customer, repeatedly iterating custom formulas until the desired characteristics were achieved.

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RESULTS

The new, customized polyurethane formula met and exceeded the previous material's performance. The end result achieved precise color matching, reduced yellowing over time, and enhanced the material's processability and overall performance. Most importantly, introducing advanced materials brought new value to the customer's mature product — extending its lifespan while enhancing functionality.

QUADRA™

MEDICAL POLYURETHANES

Quadraflex®

Polyether-based polyurethanes

Quadrathane®

Polycarbonate-based polyurethanes

Quadrasil™

Silicone-polyurethane copolymers

Quadraplast®

Aromatic rigid polyurethane

Quadraphilic™

Hydrophilic polyurethane

Elast-Eon™

High siloxane content silicone-polyurethane copolymer

WE VALUE PARTNERSHIPS

At Biomerics, we are committed to collaborating closely with our customers to achieve tailored solutions. Biomerics' material customization expertise was a key factor that turned this challenge into an impactful opportunity. Our teams were highly responsive to customer needs, collaborating closely with the customer throughout material selection and refinement. We are proud to partner with OEMs to customize materials and to develop and produce finished devices and components to your exact specifications. No matter what step in the product life cycle your project is at, we are a vertically integrated development and manufacturing resource that you can rely on to help you create value.



ABOUT US:

Founded in 1994, Biomerics is a leading vertically integrated medical device contract manufacturer serving the interventional device market. Trusted as a partner with extensive engineering expertise and solutions, Biomerics supplies 20 of the top 30 medical device OEMs globally. We provide engineering design and development, manufacturing technology transfer, and contract manufacturing services — including sterilization and packaging — for medical device components, subassemblies and finished medical devices. Through our 12 locations in the United States, Costa Rica and the Dominican Republic, Biomerics meets customers' immediate and long-term strategic needs. Biomerics utilizes a certified ISO 13485:2016 quality system and is FDA registered and compliant.