

Challenge Accepted.



# CUSTOM TPE RESOLVES A STICKY SITUATION FOR CONTACT LENS CONTAINER

 **AVIENT™**      » CASE STUDY: VERSAFLEX™ THERMOPLASTIC ELASTOMERS





# AVIENT SOLUTION ADDRESSES CRITICAL MANUFACTURING PRODUCTIVITY ISSUES AND DELIVERS OVER \$100,000 PER YEAR IN SAVINGS.

## THE CHALLENGE

A leading North American medical contract manufacturer faced a challenge when molding the gasket for a contact lens container. This two-gram gasket is a critical component for keeping contact lens solution from leaking out of the container. The manufacturer produces 7.5 million cases per year, and was using liquid injection molded (LIM) silicone for this part. However, the silicone was sticking to the mold and inner workings of the molding machine. This not only caused a high scrap rate, but also led to frequent interruptions in the automated process so that the mold and machine could be cleaned.

Because low durometer (softer) material is a requirement for this application, the manufacturer considered a switch to a thermoplastic elastomer (TPE). The company tried several TPE grades, hoping to find a material that would eliminate the adhesion problem while providing comparable softness to silicone. But even if it could find the right TPE, the company was concerned about the additional cost of new tooling, and wanted to achieve a rapid return on its investment.

## THE SOLUTION

Avient formulated a custom Versaflex™ TPE that featured a low durometer with excellent resistance to adhesion (sticking). Testing showed that this TPE would not stick to the machinery or itself.

The company was pleased with the testing results and wanted to move forward. However, before making the decision to switch from silicone to the Versaflex™ material, the company needed to feel confident that it would recoup its capital, which included a \$50,000 investment in new tooling, within 12 months.

Avient helped the customer calculate costs for the 12-month period. In addition to a lower material cost than silicone, the Avient solution offered cycle time efficiencies, lower part weight due to its lower specific gravity, and reduced scrap rates. Projections showed the cost of a new tool would be recouped within months, enabling the manufacturer to move forward with confidence.

## THE IMPACT

Avient's formulation expertise produced a specialty TPE solution that surpassed not only silicone but also competitive TPEs to solve the gasket adhesion problem for this medical manufacturer. Adding to the value of the solution, Avient provided a methodology to quantify projected savings and calculate ROI, giving the customer confidence to make a significant investment in new tooling.

With the Avient material, the manufacturer is expected to save \$122,000 per year vs. silicone. Even after the cost of the new tooling, the company will save about \$72,000 the first year, an impressive and rapid return on the investment in new tooling.

Even more important, the Avient solution solved critical manufacturing issues that were affecting productivity, quality and cost.

**To learn more about Versaflex™ TPEs, contact Avient at +1.844.4AVIENT (1.844.428.4368) or visit [avient.com](http://avient.com)**