

Custom TPE Resolves a Sticky Situation for Contact Lens Container

PolyOne solution addresses critical manufacturing productivity issues and delivers over \$100,000 per year in savings.

Situation

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 PolyOne Difference

PolyOne 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.

PolyOne helped the customer calculate costs for the 12-month period. In addition to a lower material cost than silicone, the PolyOne 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.



Delivering a Value-Added Solution

PolyOne'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, PolyOne provided a methodology to quantify projected savings and calculate ROI, giving the customer confidence to make a significant investment in new tooling.

With the PolyOne 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 PolyOne solution solved critical manufacturing issues that were affecting productivity, quality and cost.

PolyOne offers customized solutions targeted at helping customers grow and increase profitability by delivering the material performance required while also improving operational efficiency to maximize value every way possible.

Product choices often vary by region due to differences in regulatory and agency requirements, availability and other key factors. Please contact your nearest sales office for assistance in choosing the right solution for your locale.

CONTACT INFORMATION

Americas

U.S. - McHenry IL
+1 (815) 385-8500

Asia

China - Guangzhou
+86 (0) 20 8732 7260
India - Mumbai
+91 9820 194 220
China - Suzhou
+86 512 6265 2600
Hong Kong
+852 2690 5332
Taiwan - Taipei
+886 9396 99740

Europe

Germany - Gaggenau
+49 (0) 7225 6802 0
Spain - Barbastro
+34 (0) 9 7431 0314
Turkey - Istanbul
+90 (0) 212 549 2256



www.polyone.com

PolyOne Americas

33587 Walker Road
Avon Lake, Ohio 44012
United States
+1 440 930 1000

PolyOne Asia

Guoshoujing Road No. 88
Z.J Hi-Tech Park, Pudong
Shanghai, 201203, China
+86 (0) 21 5080 1188

PolyOne Europe

6, Giällewee
L-9749 Fischbach
Luxembourg
+32 (0) 83 660 211

Copyright © 2011, PolyOne Corporation. PolyOne makes no representations, guarantees, or warranties of any kind with respect to the Information contained in this document about its accuracy, suitability for particular applications, or the results obtained or obtainable using the information. Some of the Information arises from laboratory work with small-scale equipment which may not provide a reliable indication of performance or properties obtained or obtainable on larger-scale equipment. Values reported as "typical" or stated without a range do not state minimum or maximum properties; consult your sales representative for property ranges and min/max specifications. Processing conditions can cause material properties to shift from the values stated in the Information. PolyOne makes no warranties or guarantees respecting suitability of either PolyOne's products or the Information for your process or end-use application. You have the responsibility to conduct full-scale end-product performance testing to determine suitability in your application, and you assume all risk and liability arising from your use of the Information and/or use or handling of any product. POLYONE MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, either with respect to the Information or products reflected by the Information. This literature shall NOT operate as permission, recommendation, or inducement to practice any patented invention without permission of the patent owner.