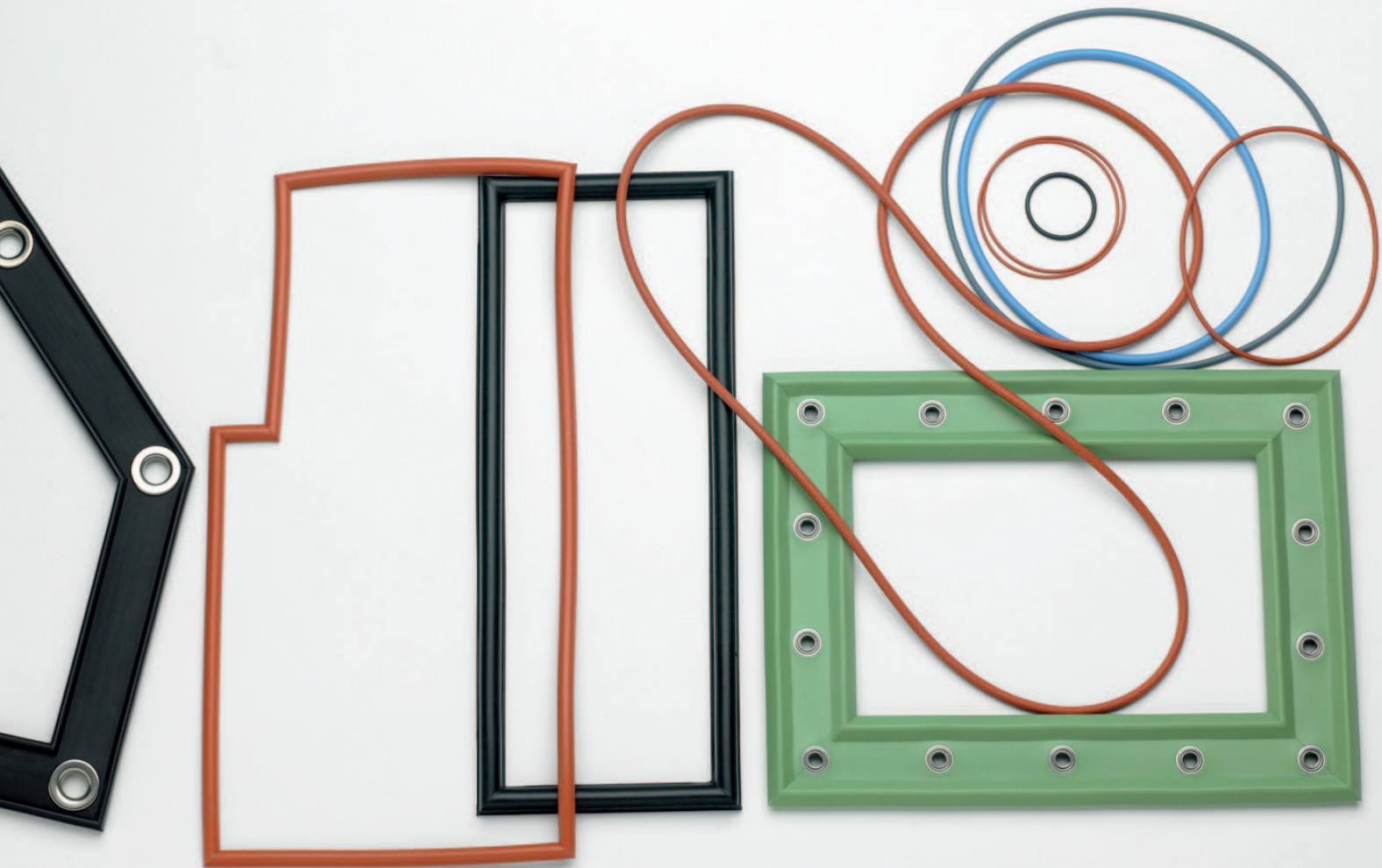




Case Studies



1

Case Study #1 - Tech Medical Plastics Solving a Design Concern

Client

Tech Medical Plastics - TriPath
<http://www.technicalprecisionplastics.com>

Situation

Tech Medical Plastics was at the pre-FDA approval stage. They had been sold on the idea of using an o-ring for the plastic groove for their patent design. The problem they had with the o-ring solution was an o-ring has a round cross section. Because of the round cross section, the o-ring didn't provide an OD interference allowing it to remain in the plastic groove.

Therefore, the customer had to use small amounts of glue to keep the o-ring in the groove. The volumes were such (pre-FDA approval), that it was feasible to glue the o-rings but still not practicable. The volumes were expected to increase exponentially with FDA approval and this was causing great concerns for the customer.

Problem

The problem was gluing o-rings for millions of parts (post FDA approval). They explained that right now they were producing thousands and with FDA approval, we were talking millions!

They had met with someone who sold them on an o-ring and since they were not seal experts, they had put their trust in the seal expert they had met with prior to my visit.

Solution

They were happy to hear that we had a solution to offer to them. We explained that an o-ring is often a great solution but it wasn't the right solution for their application. We explained that the round cross section didn't give them the OD interference they needed to keep the o-ring in place. They understood this explanation because they had to use the glue.

The solution we recommended was a precision cut square seal. We could offer the seal in their choice of USP Class IV or FDA compounds. The seal has a square cross section instead of the o-ring's round cross section. The benefit of the square cross section was give them the OD interference they needed and eliminate the need to use glue.

It was simple, the square cross section provided an increased sealing surface and wouldn't have the tendency to twist & turn like the round cross section of the o-ring. This was a static seal application, thus making the square cut seal the correct solution.



Results

A little bit of R&D was involved with the project. Because we were dealing with plastic, it was easy for the injection molder to make some adjustments to the groove diameter of the plastic component. We worked with the customer, supplying a few samples of different height options for the seal until the best fit was dialed in. Once we had the groove and seal height dialed in, the design completely eliminated the need to use the glue anymore.

Shortly after FDA approval, the volumes took-off, exactly as they had estimated. They were around 6.5 million per year and grew to 20 million per year over a few years time. That would have been a lot of labor (to glue o-rings). They were ecstatic that they didn't have to glue millions of them!

6.5 million per year

20 million per year

2

Case Study #2 - Major Transformer Company Sealing Solution Design

Client

Our customer was a major transformer company and they had used the same seal and gasket supplier for many years. They had sent out an RFQ to test the water and see if they were getting fair pricing from their long term vendor. We quoted apples-to-apples with the request and after some due-diligence on ABB part, we were told we would be awarded the business.

Situation

After we were awarded the business and we were starting to build an additional confirm level with them, we were told of an issue they were having with an existing material. Apparently, they had witness existing gasket material leaching one of the fillers out. They asked us to help, seeing that we had the resources to investigate the issue and develop a solution.

Problem

In the rubber industry, rubber products are broken down into compounds. Compounds are separated into polymer groups. In this case the polymer group was Nitrile or sometimes referred to as Buna-N. What separates one manufacturer's Nitrile from another is the fillers that are added to make it their own. While the fillers may be common, the percentages and combination will differ.

It was apparent that one of the fillers was leaching out. They couldn't fix the issue themselves because it was a standard offering from their current supplier and their current supplier wasn't going to change their recipe due to one customer complaint.

PROTECTING

market share



IMPROVING

customer perception



Results

Our customer made it an across the board replacement for their Nitrile gasket usage. Our manufacturing partner picked up a significant amount of business that they would not have enjoyed had they not assisted with the testing.

This case was one of protecting market share and improving their customer perception caused by the compound leaching into the oil. We solved these issues with our solution. The customer was extremely grateful for our assistance and solving their problem.

Solution

We began working with our manufacturing partner who offered a wide variety of compound options, including multiple compounds within the Nitrile family. Our manufacturing partner had the capability to offer testing along side the customer performing their own testing. We ended up settling on a HNBR material that didn't have any leaching issues and met the specifications requirements. The testing included multiple options and last over a period of several months to prove this was the right choice.

So **NOW** that you know the importance of a **WELL-PRODUCED, HIGH PERFORMANCE GASKET**, it's time for you to make the right decision for your project.

If you have design specs you'd like us to look over, you can send us a [request for quote](#).

Find the exact part to fit your masterpiece