

# Ashtabula Rubber Co.

## Custom Seal Design and Manufacturing

One of the most common applications for a rubber component piece is its use as a seal. Many design engineers understand when and where a seal will be needed, and may have an idea of the interface and geometry. However, there are some subtleties where detailed knowledge and experience of rubber materials, characteristics, and design is required to achieve an effective seal. Even without a complete design, engineers can still take advantage of Ashtabula Rubber's technical services. In fact, the earlier we are involved in a project the better.



The biggest factor when determining the design of a seal is the environment in which it will operate. There are four main factors that our engineers will need to know:

- Service life requirement
- Temperature the seal will be subjected to
- Pressure put upon seal
- Materials the seal will come in contact with (abrasives, corrosives, etc)

Once these factors are determined, the following questions must then be answered by our engineers.

- What materials are best suited for this environment?
- What is the cost to the customer for the materials?
- What is the best process for manufacturing and part performance?
- How long will the manufacturing process take once a design is chosen?

Recently, we were contacted by a design engineer who was unable to control a small leak within a slip yoke for one of the largest car manufacturers in the country. The yoke had a hole located in its center, which was then blocked with a pressed in steel plug.

Unfortunately, the component was prone to leaking, so it was determined that a rubber seal installed behind the steel plug was needed. After learning the exact environment in which the seal was operating, Ashtabula Rubber's team of engineers were able to design a small 1.88" diameter seal only 0.08" thick to control the leak. The design ended up being a very simple part, helping our customer avoid any costly changes to the mating components. This cost effective seal worked flawlessly, and our engineers once again demonstrated their ability find the right design, right materials, and right geometry for our customer.

By having direct engineering support and the ability to combine specific rubber compounds to meet customer requirements, Ashtabula Rubber is able to save design engineers both time and money. We help by providing the best design and having the ability to manufacture the component ourselves both domestically and internationally

Ashtabula Rubber puts the focus on our customer's needs with the technical services we provide. If you have a need for rubber components or questions about our capabilities, please do not hesitate to contact us. We are confident that we will be able to help you improve the design and performance of your component while lowering your manufacturing costs.