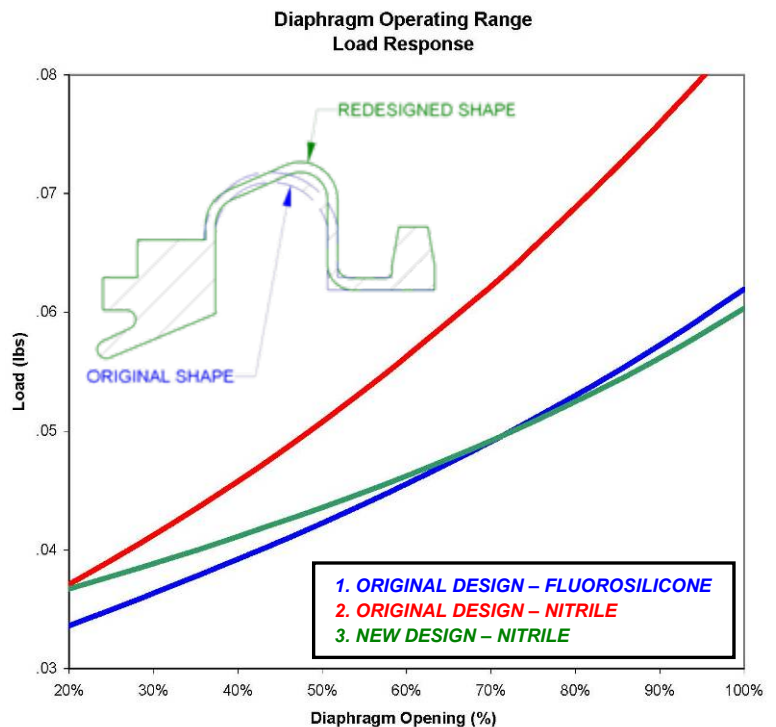
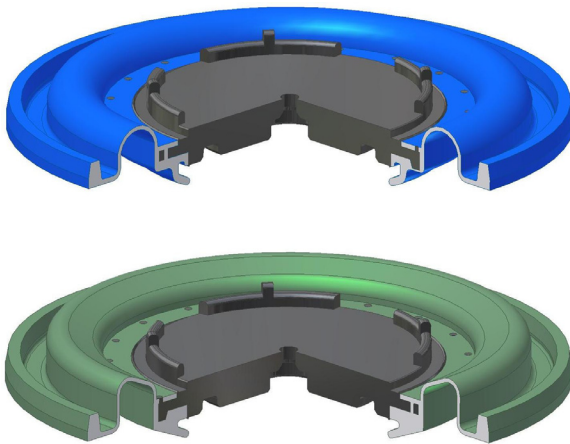


## Application:

Diaphragm check valve

## Challenge:

Reduce the cost of a low durometer, overmolded fluorosilicone diaphragm while maintaining opening pressure and flow rate of the existing diaphragm.



## Solution:

Parker Engineered Seals Division proposed using a nitrile (Buna-N) elastomer to replace fluorosilicone for a significant cost savings. Because nitrile rubber is much stiffer than fluorosilicone, duplicating the opening pressure and flow rate of the fluorosilicone diaphragm required changes to the nitrile diaphragm design. Through extensive use of Finite Element Analysis (FEA), the response curve and performance of the nitrile diaphragm were optimized to match the fluorosilicone part. Prototypes confirmed a successful design.

## Applications:

Finite Element Analysis (FEA) can help identify opportunities in new and existing designs:

- part and/or system cost savings
- performance enhancements
- longer life

Let Parker Engineered Seals Division review your application and see what opportunities are waiting to be discovered!