



Customer : **Semiconductor manufacturer**
 Product group : O-rings
 Market : **Machinery and Equipment Construction**
 Application : **Custom turbo gate seal**

ERIKS DESIGN COST SAVING SEAL WITH INCREASED PERFORMANCE AND LIFE TIME

Turbo gate seals



CHALLENGE

A world leading semiconductor manufacturer engaged ERIKS to help solve some challenges they were experiencing with their current seal used on the turbo gate isolation valve. The struggles they were facing with their current seal included difficult and time consuming installation and challenges with the seal pulling out during operation, as well as the high cost of the current seal.

SOLUTION

ERIKS' engineers and experienced application specialists worked closely with this customer to understand the challenges they were experiencing. The solution was twofold; a design and material change. The ERIKS team came up with a design change that would not only make installation a snap, but it would also solve the issue of the seal pulling out during the manufacturing process. ERIKS was also able to develop a customized material compound that would significantly lower the cost, while increasing the performance and life of the seal. Not only did the new seal pass every test it was put through, but the ERIKS' seal cost the customer 4x less than what they were currently paying.

OTHER BENEFITS

- Cost reduction
- Sustainability
- Downtime reduction

FURTHER COMMENTS

The customer was provided with samples of the new ERIKS seal to be used in several rounds of extensive testing. As soon as the customer installed the new seal they were amazed at how easy and quickly the new seal was to install. The Phase I testing consisted of running the seal several times to half-life, approximately 10,000 wafers, where the seal was then removed and inspected. To the customers delight, the ERIKS seal showed little if any evidence of degradation and little to no increases in particle count. In Phase II testing the seal was repeatedly tested to full life PM cycles of 20,000 wafers where the ERIKS seal once again performed flawlessly.