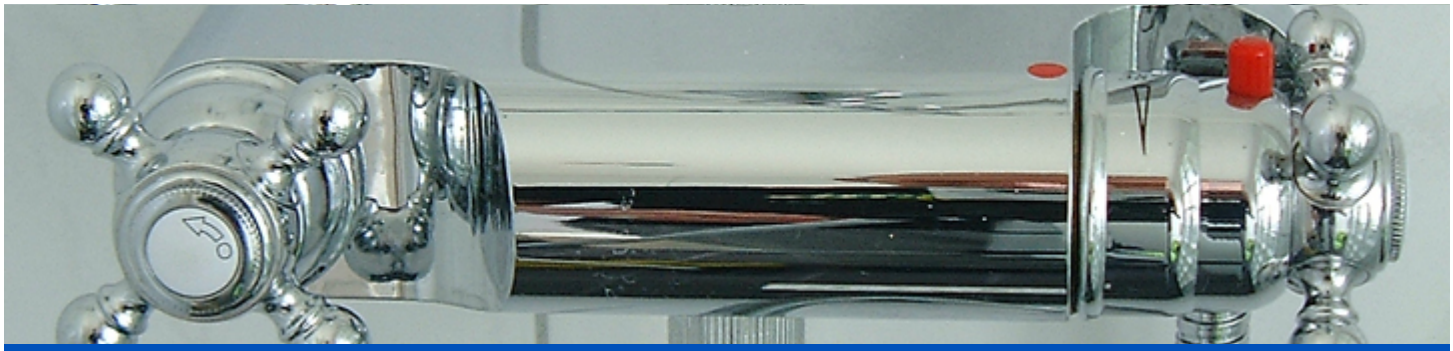
Case Study

Seals

Summary

Industry:	Other
Application:	Rod Seal
Actual Saving:	£n/a
Payback Period:	n/a



Rod Seal Delivered to Meet Customer Needs

Sealing expertise demonstrated by ERIKS

ISSUE

The customer asked ERIKS to replicate a rod seal supplied by another Seal supplier. This seal was constructed from Hydrogenated NBR with a reinforced metal insert and relied heavily on close interference tolerances on the rod with minimal change in the dynamics once a maximum working pressure of 3000psi was applied. The customer was experiencing massive percentage price increases as well as high product rejection rates during installation. The anticipated production quantity was for 36,000 seals per annum. ERIKS recommended solution had to undergo validation testing of 500,000 cycles at 1000psi and 50 cycles at 3000psi.

SOLUTION

The solution was to provide a seal that would change its geometry dependent on fluctuating system pressures and due to the large amount of repetition required, provide an efficient seal even if slight erosion of the surface was experienced.

ERIKS Sealing Technology supplied prototype seals manufactured by CNC turning to avoid initial tooling cost in a u-cup profile applicable with the existing metal work dimensions finished in polyurethane. This manufacturing method also enabled the customer to make their own recommendations for some of the dimensions to be tweaked to aid fitting, by decreasing the leading edge angle.

For the production of the 36,000 seals, ERIKS used an injection moulding process for efficiency using the exact same compound. ERIKS have also carried out immersion tests with the systems hydraulic fluid to confirm that the material change is compatible. The customer decided not to stop validation at 500,000 and the solution is now running in excess of 1 M cycles and going strong.

OTHER BENEFITS

- ERIKS Sealing Technology research and development, expertise and know-how allowed ERIKS to solve the customers problem whilst keeping the prototype costs to a minimum
- The enhanced solution has minimised downtime and increased production

FURTHER COMMENTS...

ERIKS have been given the opportunity to look at the rod guide which is currently manufactured from solid brass bar and machined in-house as it causes unwanted pickup resulting in accelerated wear on components, ERIKS solution is a PTFE/bronze filled guide ring.

MORE INFORMATION

ERIKS Industrial Services
Amber Way, Halesowen,
West Midlands B62 8WG
Tel: **0845 006 6000**
Web:**www.eriks.co.uk**