SUCCESS STORY – LONGER SERVICE LIFE FOR BUTTERFLY VALVE SEALS

As a technology leader, Freudenberg Sealing Technologies (FST) specializes in innovative sealing solutions in the process industry. Our focus is on innovation and partnership. Together with our customers, we develop tailor-made materials and sealing products according to segment or customer-specific requirements, such as approvals, Hygienic Design and CIP/SIP processes.

THE CUSTOMER

KIESELMANN GmbH is a leading manufacturer of valves, components, and system solutions for hygienic process plants in the food, beverage, and pharmaceutical industries. The company is committed to the highest quality standards, process reliability, and close customer collaboration.

SEGMENT & APPLICATION

Working closely with KIESELMANN, FST optimized a butterfly valve seal for hygienic valve applications. The project was initiated after failures of FKM butterfly valve seals at an end customer's facility. These failures highlighted the need for improved sealing performance. KIESELMANN was looking for a reliable development partner with extensive materials expertise. The company also required a partner capable of providing high-performance sealing solutions, including all necessary documentation and certifications.

DEVELOPMENT & SOLUTION

As a long-standing partner of KIESELMANN, FST supported the analysis of the application and the identification of potential areas for improvement. The focus was on a newly developed, peroxide-cured material that was investigated for the first time for use in butterfly valve seals. At the same time, the existing seal geometry of the current valve generation was specifically optimized.

The combination of the improved seal design and the performance characteristics of the new material resulted in a significant enhancement of sealing performance. To validate the suitability of the solution, prototype parts were manufactured and subjected to extensive tests. The results confirmed a considerable increase in achievable switching cycles as well as a longer service life compared to the previous design. As a result, maintenance intervals can be extended and unplanned downtime reduced.

A key success factor of the project was the close and continuous collaboration between the product development, purchasing, and sales teams of both companies. Efficient communication channels enabled a rapid transition from sampling to serial production and contributed significantly to the success of the project.

Even beyond the development phase, KIESELMANN and FST continue to maintain regular communication. Ongoing coordination of demand forecasts and planning figures supports optimized inventory management and ensures a high level of supply reliability.

The successful partnership between KIESELMANN and FST demonstrates how material expertise, application-focused engineering, and close collaboration can drive sustainable improvements in the process industry. The result is a higher-performing sealing solution with extended service life, reduced maintenance requirements, and increased plant availability.

BENEFITS AT A GLANCE

- Enhanced sealing performance through optimized design and a newly developed, peroxide-cured material
- Increased switching cycles and extended service life of the butterfly valve seal
- Reduced maintenance requirements and lower downtime at the end customer's facility
- Improved plant availability and process reliability
- Reliable material quality, including comprehensive documentation and certifications
- Fast implementation from sampling to serial production
- High supply reliability through aligned demand planning and inventory management
- Close partnership throughout the entire product lifecycle

Contact us for tailored solutions here:

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