



ENVIRONMENTAL TECHNOLOGY

Vertical reactor on PVC reactor - \$19,000 savings and swift ROI

A petrochemical company in Kentucky, USA, was using a competitor's reactor seal on a vertical reactor containing PVC slurry. The restriction bushing design on the seal was ineffective, enabling a build-up of solids to accumulate around the seal face components and leading to repeat premature failure. Some of the seals were failing after just six months.

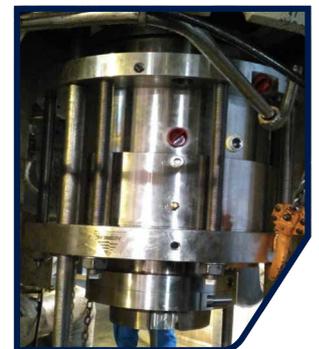
Shaft deflection was an additional problem. The shaft steady bearing, which was located at the top of the reactor vessel, was causing premature wear and shaft deflection. It took, on average, 16 hours to replace the seal and steady bearings. The resulting downtime reduced production capacity by up to 10% each time.

AESSEAL® solved the problem by installing a short canister dual mechanical seal (SCMS) with redesigned inboard bushing and correct water flush flow rate, which prevented the build-up of solids that were causing seal failure.

The steady bearing was also redesigned, which employed a more suitable bearing material and optimised water flush groove design. This supported the reactor shaft adequately, correcting the shaft deflection issue, and helped to prolong seal life.

The AESSEAL® solution increased mean time between failures on the mixer seal to more than two years. The client made a 30% saving on each seal, in addition to improved inventory management due to having to carry fewer parts in stock, and reduced maintenance costs.

It has achieved total savings of \$19,000 to date and the projected return on investment (ROI) was 16 months.



'Increased MTBF and ROI of 16 months'

Industry:	Petrochemical
Product:	SCMS
Application:	Vertical reactor on PVC
MTBF Increase:	333% (and counting)
Savings:	\$19,000
Reference N.O:	CS0004



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