



ENVIRONMENTAL TECHNOLOGY

## Huge increase in MTBF saves smelting plant thousands

A Polish zinc smelting plant was experiencing repeat leakage of a highly abrasive zinc oxide and sulphuric acid solution on an unloading pump.

The pump was sealed with a competitor's gland-packed single seal, with an API Plan 62 quench to drain support system. Mean time before failure (MTBF) was just three months and was costing the company £2,400 every time to replace the seal and packing.

AESSEAL® fitted a CDSA™ dual seal, a modular seal which is ideal for the containment of hazardous process fluids, along with an environmentally friendly SW2™ support system.

The SW2™ connects directly to the plant water line, using it as its fluid and pressure source. The plant water line pressure can be adjusted so the system's barrier fluid pressure is maintained at 1 bar/15psi above stuffing box pressure. This pressure differential keeps harmful products away from seal faces and increases reliability.

Barrier fluid is circulated to and from the mechanical seal via the thermosyphon effect. This provides more efficient cooling than once-through quench to drain.

In addition it was decided to use a flush port located in the adaptor plate. The AESSEAL® FLOWTRUE® system was installed, providing a constant supply of fresh clean water to the seal chamber at a rate of 2 litres per minute.

As a result the fluid film lubricating the seal faces has a lower temperature and contains fewer solids than the zinc oxide and sulphuric acid solution, protecting the seal faces and preventing premature corrosion and leakage.

The 40mm bearing protectors on the unloading pump were also changed to 60mm LabTecta® bearing protectors, which are more effective at excluding moisture and other contaminants.

The CDSA and support system achieved break-even point in five months and has worked problem-free for three years - saving the company more than £22,000 to date.

## 'Still operating problem-free after 3 years'

Industry:	Metal Processing
Product:	CDSA™, SW2™, LabTecta®
Application:	Zinc smelting
MTBF Increase:	720% (and counting)
Savings:	£22,000
Reference N.O:	CH01429



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