



ENVIRONMENTAL TECHNOLOGY

AESSEAL® system eases cost pressures for African company

A mining company in Namibia was experiencing persistently low pressure in its gland service water system. This was causing excessive wear on the shaft sleeves, which were having to be changed two or three times each month, and meant that the slurry pump had to be taken offline, isolated and stripped in order to replace the shaft sleeve and gland packing.

In addition, the system was using enormous amounts of water – 2,000 to 3,000 cubic metres every 21 days for each of its seven pumps. The cost of water for the seven pumps was between N\$700,000 and N\$1,000,000 (Namibian dollars) a month (between US\$40,000 and US\$60,000).

AESSEAL’s solution was to recommend the installation of its CDPH™ heavy-duty double slurry seal and SW2 water management system. The CDPH™ double mechanical seal is specially designed to cope with the demands of slurry applications. Large ports and increased radial clearances enable the seal to maintain a stable fluid film, giving longer seal life.

The first seal was installed in August 2021, along with the FDU™ (Fluid Distribution Unit). This acts as a fluid ring main system, providing cool barrier fluid to multiple independent seal support systems. This means that the AESSEAL® water management system principle can be applied without the need for a water ring main.

In line with the company’s policy of providing a full back-up service, AESSEAL® engineers have been on site each week to monitor the new system, and to provide advice and support to the client.

The result of the upgrade has been an improvement in MTBF from ten days to three months, and a dramatic reduction in water usage, from a monthly consumption of more than 2,000 cubic metres (2,000,000 litres) to less than 60 cubic metres (60,000 litres). This meant that the cost of water usage fell to between N\$2,000 (US\$118) and N\$3,000 (US\$177), a saving of between N\$97,700 (US\$5,800) and N\$147,000 (US\$8,700) per month.

‘>23 Million litres of water saved each year’

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|------------------------|-------------------------------|
| Industry: | Mining |
| Product: | CDPH™, SW2™ and FDU™ |
| Application: | Gland service water system |
| MTBF Increase: | 800% |
| Savings: | US\$69,600-\$104,000 per year |
| Water Savings: | >23,280,000 litres per year |
| Reference N.O.: | TD3082094 |



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If the CDPH™ seal were to be installed on all seven pumps, this would potentially result in savings of between N\$684,000 and N\$1 million per month (between US\$40,000 and US\$60,000). In the first year, potential savings, based on upgrades being carried out on all seven pumps, could be as much as N\$4 million (US\$237,000), increasing to N\$12 million (US\$710,000) in subsequent years once the upgrades are paid for.

A foreman at the company said that he was very pleased with the performance of the AESSEAL® system. He said that he would like to see the seals installed on all the slurry pumps in operation at the site.



‘Potential savings of up to US\$720,000 each year’

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