

Case Study: Centrifugal pump - mining slurry processing

Problem

The customer was experiencing heavy and frequent leakage issues, requiring regular replacement of the existing packing as well as shaft sleeves - all contributing to high maintenance costs.

Short life cycle,
excessive leakage

James Walker solution

Installation of Lionpak® 3301 with unique lubrication system incorporating red PTFE lubrication core that releases red lubricant through the aramid braid from the ID during operation. This helps reduce friction and heat build-up safeguarding shaft sleeves and reducing maintenance cost as well as energy consumption while maintaining long service life in the harsh and abrasive environment.



Application

Slurry processing plant in mining industry in South Africa.

Warman Heavy Duty AH Single Stage Centrifugal Slurry Pump

Battlemax Heavy Duty IN Single Stage Centrifugal Slurry Pump

- Media: chrome, platinum and gold slurry
- Temperature: 30-40°C (85-104°F)
- Speed: 800-1800 rpm
- Gland pressure: 8-12 bar (800-1200 kPa)
- Water flush at 1 bar (100 kPa) pressure
- Shafts: Ø 45.5 mm, Ø 59 mm, Ø 82.5 mm, Ø 100 mm, Ø 130 mm, Ø 177 mm
- Packing sizes: 8 mm (5/16"), 10 mm (3/8"), 12.5 mm (1/2"), 16 mm (5/8"), 20 mm (13/16"), 24 mm (15/16")

Results and benefits

The use of Lionpak® 3301 packing resulted in doubled service life of the pump packing (from 1 to 2 months). The packing has also reduced the erosion of shaft sleeves, resulting in less frequent replacement of sleeves, significantly reducing maintenance and operating costs as a result.

Life cycle doubled,
leakage reduced

Existing solution

Generic graphite-based packing



Improved energy consumption



Lower operational costs



Significant reduction in maintenance