

Case Study: Slurry pump shaft sealing

Problem

The customer was using packing that was unsuitable for the application. Very poor performance with excessive leakage of up to 5 litres/min - 66 gallons/hour.

Very short service life of one week

Very short service life of around one week resulted in pumps being frequently taken out of service for refurbishing and this contributed to very high maintenance costs.

James Walker solution

Lionpak® 3301 is an aramid-based packing with a unique lubrication system core that releases red lubricant through the aramid braid from the ID during operation, providing a long service life even in harsh and abrasive environments.



Results and benefits

- Minimum five times longer service life of the pump packing (from 1 up to 5-6 weeks).
- Significantly reduced leakage rate from 5 litres per hour (1 gallons/hour) down to 0.5 litres (0.1 gallons/hour).
- Reduced wear on shaft sleeves.

Reduced leakage and 5x life

Application

Centrifugal slurry processing pump.

- Media: 60% Iron ore slurry
- Temperature: 60°C (140°F)
- Shafts: Ø 130 mm (5")
- Packing sizes: 20 mm (¾") square section
- Speed: 12 m/s (2362 ft/min)
- Gland pressure: 4 bar (400 kPa)
- Water flush at 1 bar pressure (100 kPa)

Existing solution

Stoplík style 99 - PTFE/graphite reinforced packing with synthetic fibre



Significantly extended pump operating time



Reduced maintenance costs



Lubrication system helps reduce friction and heat build-up, safeguarding shaft sleeves



Reduced friction also cuts energy consumption