

#### Problem

Due to high number of pumps in the plant (around 500) the customer experienced significant cost with a high annual spend on compression packing from previous supplier.

High yearly maintenance costs due to a large number of pumps on-site



#### Application

Centrifugal pumps pumping caustic solutions (NaOH) to pipe-work to break down the scale that builds up over time.

- Media: caustic 300 g/L concentration of sodium hydroxide
- Temperature: 100-120°C (212-248°F)
- Speed: 12 m/s (2362 ft/min)
- Pressure: 12-15 bar (1.2-1.5 MPa)
- Water flush: 1.5 bar (0.15 MPa)
- Configuration: 5-6 pre-formed rings per set (2 x Lionpak® 5304 rings + lantern ring + 3 or 4 x Lionpak® 5304 rings)
- Packing sizes: 8 mm (5/16"), 10 mm (3/8"), 12.5 mm (1/2"), 16 mm (5/8"), 20 mm (13/16"), 25 mm (1")

#### Existing solution

Style 477-1T from Chesterton

#### Results and benefits

The use of Lionpak® 5304 enables the customer to reduce spend on compression packing by up to 25% per annum while also improving operational performance and service life.

Costs reduced by up to 25% a year

#### James Walker solution

Lionpak® 5304, high performance, tough packing made of carbon fibre thoroughly impregnated with PTFE dispersion. A more cost effective packing highly recommended for pumps handling caustic chemicals like sodium hydroxide or potassium nitride as well as other abrasive slurries.



Increased service life and operational efficiency



Reduced total spend on compression packing



Safeguards shaft sleeves from erosion