

#### Problem

The existing packing was being destroyed by the process media, which is naturally both very reactive and abrasive. This was resulting in an average packing service life of around 10 days, leading to frequent extensive leakage, health and safety issues and associated high maintenance costs.

## Frequent leaking and high maintenance costs

#### Application

- Equipment: single stage centrifugal slurry pump used in fluid catalytical cracking (FCC) process
- Media: slurry oil with solid concentration coming out from catalytic cracking process in the reactor
- Temperature: 450°C (842°F)
- Shaft: Ø 100 mm (4") and above
- Speed: 1400 rpm
- Gland pressure: 80 bar (1160 psi)
- Packing sizes: 12.5/14/16 mm
- No flush - dry running operation

#### Existing solution

Conventional graphite packing without carbon corner reinforcement

#### James Walker solution

Lionpak® 5302 was specifically developed to combine the advantages of soft expanded pure graphite yarn with the toughness of carbon fibre in its four corners. This was chosen as the solution for the customer as its unique construction helps to withstand high temperature abrasive slurry environments and provide long service life, whilst safeguarding shaft sleeves and reducing maintenance cost.



#### Results and benefits

The use of Lionpak 5302® has addressed the frequent extensive leakage. The product service life increased from 10 days to approximately 5 months. This addressed the health and safety issue and led to a significant reduction of maintenance costs and in turn, the customer reported an increase in operational efficiency.

## Increased service life, reduction of maintenance costs and increased operational efficiency



Longer, extended service life



Improved health and safety



Reduced maintenance cost



Increased operational efficiency due to less downtime