



## WR<sup>®</sup> Upgrade Achieves Dramatic Improvements for Global Oil Refinery

Wear-Resistant Composite Delivers 500% Increase in Life Span



Greene Tweed implemented wear-resistant WR<sup>®</sup> 525 and WR<sup>®</sup> 300 high-performance thermoplastic composites to enhance performance and increase MTBF in multistage booster pumps for a major aviation fuel refinery. This solution was successful in improving the equipment's reliability, increasing production capabilities, and overall customer satisfaction.

### Customer

A manufacturer and after-market provider of flow control products.

### Challenge

- Sought improved pump reliability and increased operational uptime
- Required solutions that can withstand chemically challenging media and operate

Our customer, a leading manufacturer and aftermarket service provider of comprehensive flow management products and services, had provided a series of eleven stage booster pumps to a global oil refinery operating the country's largest privately owned underground pipeline that distributes fuel directly to one of the world's busiest airports. This company's demanding environment required pumps capable of withstanding consistent operating pressures of 100-152 bar. Having successfully developed innovative composite solutions with Greene Tweed on other projects, our customer turned to us to ensure their booster pumps would provide the most reliable solution for this challenging application.

### Solution

#### WR<sup>®</sup> 525 and WR<sup>®</sup> 300

Greene Tweed recommended WR<sup>®</sup> 525 for the throttle bush, center bush and cross-over bush, and WR<sup>®</sup> 300 for the pumps' wear rings. Our WR<sup>®</sup> high-performance thermoplastic composites offer exceptional non-galling, non-seizing properties as well as excellent chemical resistance and superior performance in high pressure environments. These material properties allow close bearing and wear ring clearances, increasing efficiency, reducing vibration, and enhancing the pump's overall reliability.



Our customer received repeat refurbishment orders for additional pumps that have been operational for over two years with zero downtime.

## Results

- Extended MTBF from 18 to 96 months
- Improved reliability and customer satisfaction
- Increased repeat business for our customer

Following the implementation of WR<sup>®</sup> high-performance thermoplastic composite components in its fuel pumps, the pumps operated for 96 months without failure. This was an extraordinary 500% increase over the previous operational lifespan of only 18 months. As a result of this successful upgrade, our customer received repeat refurbishment orders for additional pumps that have been operational for over two years with zero downtime.

## Greene Tweed

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