



Greene Tweed's Low-Friction Seal Improves Completion Tool Reliability at Deep Depths and Pressures

Background

An oilfield services company that serves the drilling, completion, and production-related needs of oil & gas companies worldwide developed a flow control valve that has been proven to work in shallow to moderate depths where the surround pressure is lower, and the valves could actuate as necessary.

Recognizing that their customers were using the valve in their Hydraulic Actuated Well Completion System (HAWC) at depths beyond the original operating specifications, the company evaluated the entire system to better meet their customers' requirements. In addition, they investigated solutions to improve flow control valve reliability.

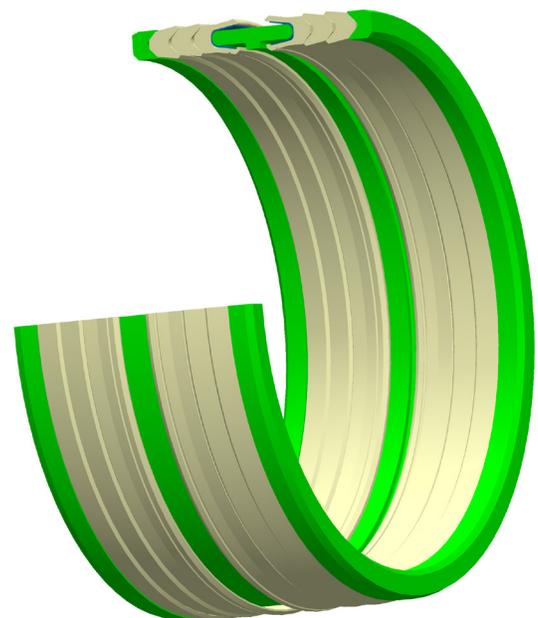
Challenge

The move to deeper depths created a new challenge for their valve. When the company's customers used the valve in extended depths, the surround pressure increased dramatically, making it very difficult to shift the valves open or closed due to the high friction caused by the collapsed pressure.

Solution

The oilfield services company partnered with Greene Tweed to create a low-friction seal that could compensate for the surround pressure at both the shallow and extended depths, and allow the valves to open more reliably, avoiding an expensive shutdown.

Incorporating Greene Tweed's seal ensured high performance without the risk of an expensive production shut-in or costly intervention.





The Greene Tweed solution was composed of a combination of Greene Tweed's proprietary materials, Avalon® 89 and 57 as well as Arlon® 1330, a lubricated PEEK material developed specifically to minimize friction.

Greene Tweed's design expertise and industry-leading materials enabled the company's technology to perform more reliably at extended depths and pressures.

Results

The Greene Tweed seal passed the company's qualification testing for optimal sealing, while minimizing shifting forces with low- and high-surround pressures.

Greene Tweed's industry-leading materials and engineering capabilities offered a seal design that enabled their customers to open or close valves regardless of depth.

Incorporating Greene Tweed's seal in the company's flow control valve ensured high performance without the risk of an expensive production shut-in or costly intervention.



Various Sealing Solutions

Greene Tweed's industry-leading materials and engineering capabilities offered a seal design that enabled their customers to open or close valves regardless of depth.

Greene Tweed

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Statements and recommendations in this publication are based on Greene Tweed and the customer's experience and knowledge of typical applications of this product and shall not constitute a guarantee of performance nor modify or alter our standard warranty applicable to such products.

Further investigation and analysis are required to resolve additional challenges within these applications.

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