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Trelleborg introduces XploR S-Seal XploR FS-Seal

Jennifer Karpus-Romain

Trelleborg's XploR FS-Seal.

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XploR S-Seal and XploR FS-Seal are custom-engineered, spring-energized seals and combine the benefits of integral support components with the flexibility of an elastomer seal.

"The standard S-Seal has been a key solution for oil and gas engineers for many years and this new version of the proven product is an enhancement to meet the ever more extreme requirements of today's oil and gas applications," said Eric Bucci, Trelleborg Sealing Solutions global technical manager for the Americas oil and gas market.

"The S-Seal is popular due to its simple one-piece design, anti-extrusion resistance and easy installation into solid grooves. Now manufactured in industry-specific XploR and incorporating an innovative anti-extrusion feature, it can operate in much higher pressures and temperatures experienced in oilfield environments."

There will be a standard range later in 2019, Bucci said. Many of the applications Trelleborg is working on require a custom-designed version. Prototypes are ordered and proposals are accepted, with first shipments scheduled for late May 2019.

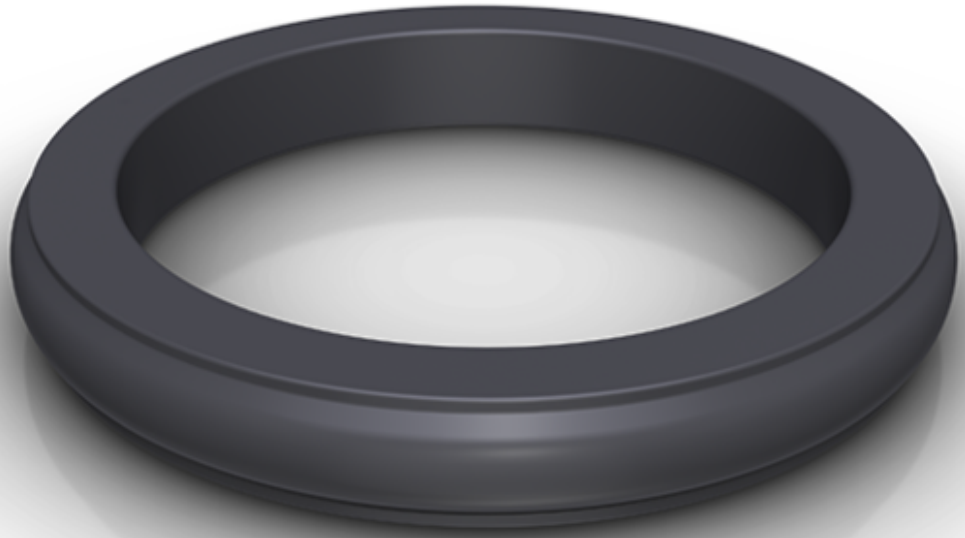
Offshore oil and gas fields are moving into deeper waters, thus applications are becoming increasingly challenging. The XploR S-Seal and XploR FS-Seal are able to meet the growing demands to meet critical operating parameters, such as downhole tool applications.

"The XploR S-Seal is very versatile and is not only for downhole tools, but also for use in any static or slow dynamic applications ranging from wellheads to tubing hangers and subsea riser connections of all types," Bucci said.

"The seal can replace multi-component sealing configurations

containing O-rings, back-up rings, U-cups or T-seals, for example. This makes seal installation much easier and eliminates multiple part numbers, streamlining customers' procurement and stocking processes."

The temperature and pressure limitations on the standard S-Seal depend upon the seal material and its anti-extrusion design. The XploR S-Seal is produced from an oil and gas industry-specific material that can operate at 392°F and 15,000 psi.



Trelleborg's XploR S-Seal.

Each application is carefully reviewed by Trelleborg Sealing Solutions engineers to ensure the XploR S-Seal is suitable for operating conditions, Bucci said.

"However, as should be the case with any type of oilfield equipment, the solution should be validated in a working environment," he added.

The XploR S-Seal and XploR FS-Seal are manufactured in a range of XploR Rapid Gas Decompression and sour gas-resistant elastomers along with corrosion-resistant steel springs, Trelleborg said in a news release.

"Custom-engineered seals are sometimes required as equipment manufacturers reduce metal weight, design space-saving tools and think outside the norm," he added.

"Trelleborg is perfectly placed to assist customers in the design process globally, with our engineers working locally with the customer's engineers."

Each custom application is thoroughly reviewed and FEA performed to verify product fit, form and function.

"The typical anti-extrusion device in the standard S-Seal is a metallic garter spring," Bucci said.

"In some instances, the metallic garter spring can wear the mating hardware due to tiny movements of the seal reacting to pressure and thermal fluctuations.

"To minimize the wear on customers' hardware, in the XploR S-Seal we use a composite spring material to be forgiving to the hardware/seal interface. The composite spring is flexible like a metallic garter spring, which allows for easy installation," he added.
