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# Press Release For immediate release

**Trelleborg launches new Spring-Energized Seals for High Pressure High Temperature Oil & Gas Environments**

Trelleborg Sealing Solutions launches its XploR™ S-Seal and XploR™ FS-Seal custom-engineered, spring-energized elastomer seals. Meeting the needs of the oil, gas and energy industries, these offer maximum extrusion resistance in demanding high pressure, high temperature (HPHT) sealing environments.

James Simpson, Global Segment Director Oil & Gas and Energy, Trelleborg Sealing Solutions, says: “Our new XploR™ S-Seal and XploR™ FS-Seal combine the benefits of integral support components with the flexibility of an elastomer seal in static applications. Unlike typical O Ring and Back-up ring or T-Seal solutions, these seals are single-piece components, engineered to make installation easier and safer. Being one component, the design removes the need for multiple Back-up Rings that require correct placement in the housing, significantly simplifying installation in closed grooves and in ‘blindly installed’ applications, reducing the likelihood of damage.

“Optimal stress distribution throughout the elastomer body was modelled through Finite Element Analysis (FEA) to ensure our products provide high performance sealing coupled with a long seal life. Extrusion resistance is provided by specially designed integral anti-extrusion springs; they provide support to the elastomer and are flexible to allow straightforward installation.”

The elastomer materials for the seals are from the XploR™ range of Trelleborg Sealing Solutions compounds specifically developed for the harshest of oil and gas processing conditions, providing resistance to Rapid Gas Decompression (RGD) and sour gas.

Molded into the elastomer profile of the XploR™ S-Seal and XploR™ FS-Seal, are two corrosion-resistant metallic anti-extrusion springs. These facilitate high pressure operation through a temperature range of -45 °C to +260 °C / -49 °F to +500 °F and ensure pressure transmits uniformly in all directions across the seal footprint. There is an option to overwind these springs with a Polyetheretherketone (PEEK) or carbon fiber composite material to meet specific pressure requirements.

The anti-extrusion springs provide strong extrusion resistance to the seal while the elastomer element maintains a gas-tight seal when un-pressurized. During operation, the springs work with the pressure to increase the sealing effect. As system pressure increases, the anti-extrusion springs are forced into the extrusion gap area providing a robust and reliable seal.

The XploR™ S-Seal has a rectangular body and rounded seal surface. The seal replaces an O-Ring and Back-up Rings or T-Seal in HPHT static applications. The XploR™ FS-Seal profile has a concave feature on the base with a rounded sealing surface. This allows for increased compression in HPHT situations, specifically for large diameter clearance requirements.

Static test fixtures provided in-house testing of typical requirements for American Petroleum Institute (API) 6A PR2 certification. This testing validates the compatibility of the XploR™ S-Seal and XploR™ FS-Seal at specific pressures and temperatures as indicated by the test protocol. Materials are NORSOK and ISO 23936 compliant.

To view a technical webinar on XploR™ S-Seal and XploR™ SF-Seal, go to: <https://www.oilandgas-seals.com/en/tools-and-media/technical-library/xplor-webinar-logged-in>

To find out more on XploR S-Seal and FS-Seals, go to: <https://www.oilandgas-seals.com/en/products/static-seals/xplor-s-seal-and-xplor-fs-seal>

**ENDS**

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**About Trelleborg Sealing Solutions and Trelleborg Group**

***Trelleborg Sealing Solutions*** *is one of the world’s leading developers, manufacturers and suppliers of precision seals, bearings and custom-molded polymer components. It focuses on meeting the most demanding needs of aerospace, automotive and general industrial customers. Its network extends to over 25 production facilities and more than 50 Customer Solution Centers globally. The business area accelerates the progress of its customers through outstanding local support, an unrivalled product range including patented products and proprietary materials, a portfolio of established brands, unique process offerings, its ServicePLUS value chain solution and ‘Ease of Doing Business’ philosophy.*[*www.trelleborg.com*](http://www.trelleborg.com)*/seals*

***Trelleborg*** *is a world leader in engineered polymer solutions that seal, damp and protect critical applications in demanding environments. Its innovative solutions accelerate performance for customers in a sustainable way. The Trelleborg Group has annual sales of about SEK 34 billion (EUR 3.34 billion, USD 3.95 billion) and operations in about 50 countries. The Group comprises three business areas: Trelleborg Industrial Solutions, Trelleborg Sealing Solutions and Trelleborg Wheel Systems. The Trelleborg share has been listed on the Stock Exchange since 1964 and is listed on Nasdaq Stockholm, Large Cap.* [*www.trelleborg.com*](http://www.trelleborg.com)*.*