

Stuffing Box Anti-Extrusion Rings

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Overview

This guide summarise product information for Benoil Anti-Extrusion Rings (AERs).



2.375" ID x 5.50" OD Anti-Extrusion Ring

1 – Background

Anti-Extrusion Rings are support components fitted within a coiled tubing unit stuffing box to provide a firm and consistent interface for stripper packer elements, restricting deformation and preventing extrusion under applied pressure.

Extrusion of the packer from its installed position can cause coiled tubing binding, reduced sealing effectiveness and increased packer wear around the coiled tubing. The Anti-Extrusion Ring ensures the stripper packer seals effectively.

2 – Design

Benoil Anti-Extrusion Rings are manufactured from reinforced PTFE, a fluoropolymer, commonly known as Teflon. It is a low-friction, thermochemically stable and deformation-resistant material, which is compatible with typical oilfield production fluids.

The Anti-Extrusion Ring geometry features a central radial chamfer, providing a guide surface against which the compressed stripper packer self-centres, preventing misalignment issues that can lead to increased wear and improper sealing.

Customer experience indicates that Anti-Extrusion Rings have a service life exceeding that of two stripper packer elements. Negligible component failure rate has historically been observed, insofar as Benoil has been informed.

3 – Material Choice

The thermomechanical and chemical stability of PTFE across a wide range of thermal and chemical conditions makes it well suited to wellhead applications. These components are regularly exposed to well fluids, lubricants and other process chemicals in addition to elevated temperatures, without impacting their mechanical properties.

The high bond energy between carbon and fluorine and the protective helical sheath structure allow PTFE to maintain a Shore hardness of 50–60D across temperatures ranging from –200°C to +260°C.

Furthermore, the inherent self-lubricating surface of PTFE mitigates the risk of coiled tubing binding during transit. An additive reinforcement process was used to increase the stiffness of the base material, improving deformation and creep resistance of the resulting Anti-Extrusion Ring.

4 – Identification, Storage & Usage

Can be stored indefinitely at ambient conditions.

Every Benoil Anti-Extrusion Ring is marked with its Benoil P/N as well as the batch code, containing the batch production date.

5 – Company Information

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