DATA SHEET

HALLIBURTON

Casing equipment
Compression-set packers

Obex IsoLock® packer collar

V3-rated mechanical barrier support plus integral multiple-stage cementing capability

FEATURES AND BENEFITS

- Mechanically set tool that promotes well integrity by integrating a packer and cementer into a single assembly
- Field-proven packer element and internal ratchet mechanism
- Bidirectional packer element ratings up to 6,000 psi at 200°F
- ISO 14310 and 19AC V3-rated
- Simple and reliable design that eliminates leak paths from the setting operation

Overview

Reliable and effective annular barriers are critical to well management for safety and performance. When sustained casing pressure (SCP) occurs, it is an indication that well integrity has been compromised, often resulting from a failed barrier. SCP can lead to a loss of production and costly remediation.

The majority of wells using a barrier tool rely on an inflatable packer in multiple-stage cementing. Designed to only support second-stage cementing pressures or short-term overpressures from below, inflatable packers often do not provide reliable barrier support and may allow some pressure to penetrate. This pressure can disturb the cement setting process and lead to loss of well integrity, thus impacting wellbore isolation, emissions, and well production.

For a packer to mitigate pressure and qualify as a barrier, a design validation from an industry standard or specification is required. For packer designs, validation grade V0 is the strongest rating and indicates that the packer has passed a gas test, along with requirements for differential loads, temperature cycling, and a zero-bubble acceptance criterion. Grade V3 is the most stringent liquid rating, indicating that the packer has passed a liquid test, along with the requirements for differential loads and temperature cycling.

Isolation Assurance >
The Obex IsoLock® packer collar provides V3-rated mechanical barrier support to prevent fluid migration while supporting multiple-stage cementing.

The Obex IsoLock® packer collar, which is part of the Halliburton Obex® family of compression-set packers, provides a mechanical barrier that bridges the cost and capability gap between an inflatable packer/cementer and a premium gas-tight packer and cementer run in tandem. By integrating a packer and cementer into a single assembly, the Obex IsoLock packer collar can prevent well integrity issues, even after a multiple-stage cementing job is complete. Built upon our gas-tight Obex GasLock® V0-rated packer design, the Obex IsoLock packer collar provides ISO 14310 V3-rated pressure-holding capacity and increased reliability over inflatable packer options.

Superior sealing

The Obex IsoLock packer collar is designed for casing-to-casing applications to provide V3-rated isolation assurance while supporting multiple-stage cementing with the integration of an internal sleeve stage cementer. The Obex IsoLock packer collar operates by setting the packer elements with a seated plug and applied internal casing pressure. An internal continuous ratchet mechanism keeps the packer compressed from the initiation of the setting until it is fully set, at which point the sleeve will expose the cementing ports for the second stage. This system removes the need for rupture discs, thus further increasing operational reliability.

Improved drillability

The compact design of the integrated stage cementer and casing annulus packer allows for two lower-profile seats: one seat to set the packer and expose the dedicated cement ports, and a second seat to shift and lock the stage tool closed. This compact design, along with 70% fewer internal components compared to traditional stage tool design, results in simplified drillouts and reduced debris volumes.

Exceptional reliability

Proven technology

Incorporating years of Halliburton cementing experience and directly repurposing the element design from our field-proven Obex GasLock gas-tight packer allows the Obex IsoLock packer collar to offer exceptional reliability as a mechanical barrier.

Engineered for performance

The Obex IsoLock packer collar design utilizes a drive-pin setting system that eliminates potential leak paths from the setting operation. This feature removes the risk of premature rupture disc failure, often affected by losses in the well, which would traditionally prevent the packer from fully setting. Additionally, with six dedicated cement ports, the Obex IsoLock packer collar provides improved 360° cement flow, allowing for a more uniform distribution of cement in the annulus to provide a dependable cement barrier.

Hydromechanical setting method

Like all the packers in the Obex family, the Obex IsoLock packer collar is mechanically set and not inflated. The setting process does not rely on narrow channels that can pack off to operate. Using an internal ratchet mechanism to lock the compression element after it is set results in zero weak points in the packoff.

Operated with displacement or freefall plugs

This packer collar can be operated with either displacement or freefall plugs, allowing for the tool's use in high inclinations up to 90° or in long wells where plugs can take a long time to drop.

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Mechanical barrier support

The Halliburton Obex family of compression-set packers provides a range of reliable mechanical barrier support. The Obex IsoLock packer collar is ISO 14310 V3 rated, and can prevent well integrity issues by serving as an effective barrier to mitigate fluid migration while supporting multiple-stage cementing through the integration of a packer and cementer in one tool.

Reliable by Design > The Obex IsoLock® packer collar utilizes a drive-pin setting system, along with six dedicated cement ports, and is operated with displacement or freefall plugs.

For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com

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