

SwageHammer™ Integrated Liner-Hanger System

Provides a reliable gas-tight seal and maximizes circulation, especially in complex HPHT wells

Applications

- Critical well applications within the specified range
- Gas-tight applications
- High-angle, horizontal, and extended-reach-geometry wells
- Deep and highly deviated wells with high pressures, high temperatures, or both
- Drill-down and ream-down liner situations
- Drilling-with-liner applications that require pressure-surge management
- Liner installations that require rotation and reciprocation for more effective wellbore cleanup
- Production liners that require a high level of pressure integrity for the life of the well

Features and Benefits

- The single-piece body combines a high-performance liner-top packer with a hydraulic-set hanger, which eliminates potential leak paths through internal connections and body setting ports.
- Compliance with International Organization for Standardization (ISO) 14310 V0 and American Petroleum Institute (API) 11D1 test criteria validates the system for use in critical well applications that require enhanced pressure and temperature capabilities.
- Hydraulic activation eliminates the need for drillstring manipulation, which is required to set mechanical hangers, and enables setting the hanger in wells that are deep, highly deviated, or both.
- Field-proven nitride hanger slips ensure that the system can be set in the hardest grades of host casing.
- The patented SwageSet element consists of ridge-shaped Aflas* elastomers bonded to an expandable metal ring to form an anti-extrusion barrier between the packer OD and host casing ID when set.
- The packer is activated by weight, which eliminates the need to wait for a plug bump.
- Aflas elastomers are highly resistant to swab-off, which enables high circulation rates past the liner system, aids the removal of debris during well cleaning, and improves the quality of cement.



The Weatherford SwageHammer integrated liner-hanger system combines a high-performance liner-top packer and a hydraulic-set hanger in one body.



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Features and Benefits continued

- The integral body-lock rings permanently lock the SwageSet element and the slips after setting to ensure that both the packer and hanger do not unset.
- The fully integrated system has a single hookup and a single stabbing and testing procedure to reduce nonproductive time and the associated costs.
- The liner-hanger system can be easily manufactured to match the metallurgy of the customer's liner to enhance performance.
- The capabilities to rotate and to reciprocate during run-in and before cementing operations help to ensure total depth, enhance the cement job, and improve zonal isolation.

Tool Description

The Weatherford SwageHammer integrated liner-hanger system supports liner installations in such critical applications as deep and highly deviated wells, which commonly have high pressures and temperatures. The one-body system combines a high-performance liner-top packer and a hydraulic-set hanger. It is engineered to the strictest sealing requirements as specified by ISO 14310 V0 and API 11D1 criteria. Applied drillpipe weight causes the expandable metal ring in the SwageSet element to swage out to the host casing ID and form a reliable gas-tight seal. The Aflas elastomers bonded to the metal ring resist swab-off and enable high circulation rates.

Used with the SwageHammer liner-hanger system, the SwageHammer running and setting system is hydraulically balanced during run-in and drilling and reaming operations, which eliminates the risk of prematurely setting the liner hanger because of surges or high circulating pressures. The running and setting system is released before cementing operations and once the liner hanger is set for successful retrieval of the running system.

* Aflas is a registered trademark of Asahi Glass Co., Ltd.

