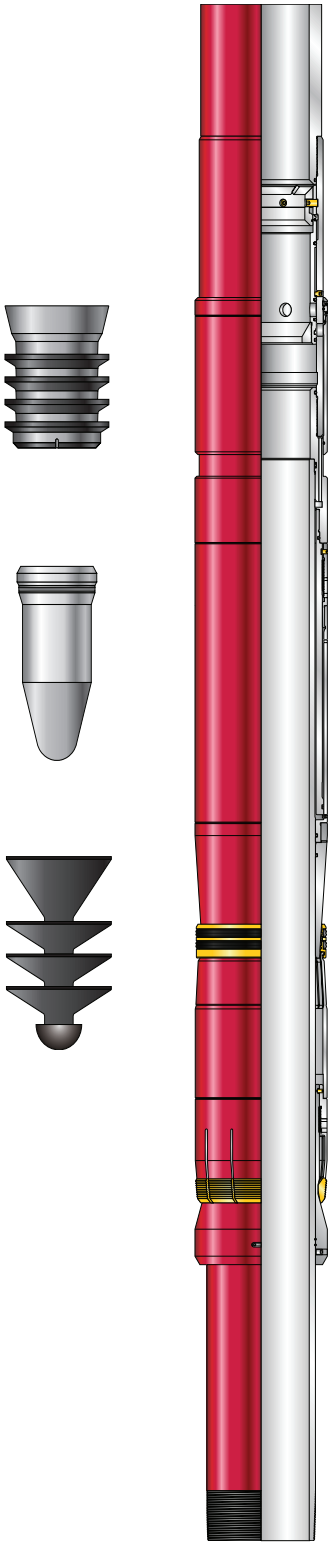
SwageSet Stage Tool

9-5/8 × 13-3/8 in., 86 lb/ft (128 kg/m)



Weatherford's Model 786 SwageSet Stage Tool is a high-pressure, high-temperature (HPHT) stage cementing tool that is used in cased-hole applications. The tool integrates two field-proven technologies—a hydraulic-set version of the SwageSet liner-top packer and the mechanical-stage cementing tool from the Model 781 Pack-Off Stage Tool—into a single body, setting a new industry standard for HPHT stage-cementing products.

The SwageSet Stage Tool is made-up in the casing and positioned at the appropriate location in the well. The first-stage cement job is performed, and the first-stage plug lands. The free-fall opening cone is dropped and lands in the stage-tool opening seat. Applied pressure moves the cone and seat down, exposing internal ports. The element and packer slips are then set hydraulically in the parent casing, isolating the open hole below. Additional pressure is then applied, and the external sleeve shears downward, allowing circulation through the open ports into the annulus for the second-stage cement job. The ports are closed with the closing plug at the conclusion of the second-stage cement job. An optional pump-down opening-plug system with first-stage bypass is recommended for highly inclined wells or deep wells where excessive time may be required for the opening cone to reach the opening seat.

Applications

- Isolation of weak or sensitive formations from the effects of increased hydrostatic pressures that occur during cementing operations
- Deep, hot wells with high differential pressures due to fluid losses below the stage tool and wells with annular gas migration concerns

Features, Advantages and Benefits

- The tool provides a mechanical packer to enable more reliable multiple-stage cementing jobs for deep gas wells where inflatable packer-element pressure ratings are often exceeded.

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Features, Advantages and Benefits *(continued)*

- Dual-extrusion resistant HNBR elements are bonded to an expandable steel ring, providing a high-pressure gas-tight seal.
- The tool is differential-pressure-tested to seal at 7,000 psi (48.2 MPa) with water and 3,600 psi (24.8 MPa) with gas at 350°F (176°C) in 13 3/8-in., 86-lb/ft (128-kg/m) casing, providing a reliable tool for stage-cementing applications.
- The packer cannot be set or the tool opened with internal pressure until the opening cone lands on the opening seat and shifts the inner sleeve, preventing premature opening.
- The closing-plug antirotation design improves drill-out time, saving rig time.