

Advanced Perf, Wash, and Seal System

Creates a safe and permanent hydraulic seal with single-trip efficiency

Applications

- Plug and abandonment operations

Features and Benefits

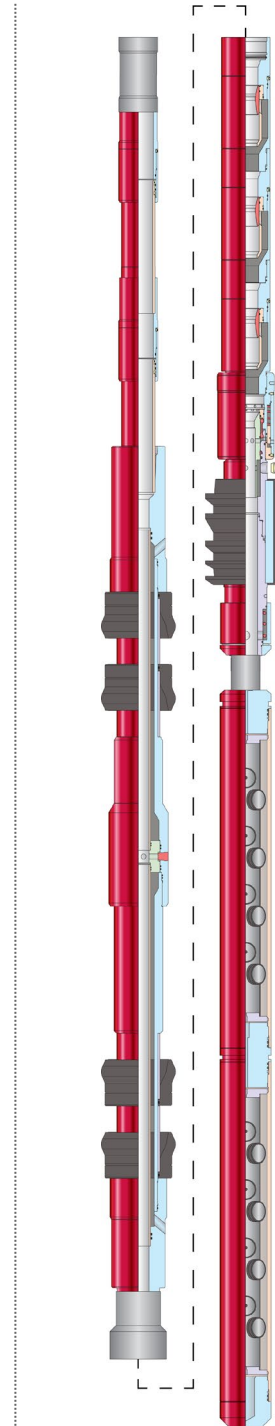
- Reduces rig-time requirements compared to conventional milling
- Eliminates the swarf-handling risks associated with milling
- Perforates, sets the cement retainer, washes the annulus, and forms a void-free cement bond in a single trip
- Creates a permanent barrier without impacting current or future production zones
- Leverages field-proven Weatherford equipment, including the subsurface release-plug system and the patented SurgeMaster[®] cementing system
- Includes a patented system that bypasses the cup tool, relieves influx pressures, and eliminates the risk of upward forces pushing the tubing out of the hole
- Enables multiple washing cycles across the perforated zone
- Improves flow through the cementing cup tool via angled slugging ports, which enables a quality mainbore plug

Tool Description

The Weatherford advanced perf, wash, and seal system creates a permanent hydraulic seal in one trip. The proprietary system establishes the seal without impacting current or future production zones. Perfected in the North Sea, the system reduces rig time and eliminates the swarf-handling risks associated with milling in conventional abandonment operations.

First, the system creates a series of small perforations—rather than a single, large perforation—throughout the target zone to maintain casing integrity. A proprietary bypass system enhances operational safety during perforation. Next, the subsurface release-plug system is set 5 to 10 ft (1.5 to 3 m) below the lowest perforation. This simple solution isolates the well section and forms a base that supports a permanent barrier.

A cement cup tool enables multiple washing cycles across the perforated zone when needed and enables placement of a cement barrier in both the annulus and main bore. The end result is an impermeable barrier that prevents hydrocarbons from migrating to the surface.



The Weatherford advanced perf-and-wash system creates a permanent hydraulic seal across the borehole that mimics natural bedding and mitigates gas migration.



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Specifications

Casing Size	Weight Range	Pressure Rating	Connection
16 in.	84 to 126 lb/ft	3,000 psi	NC-50
13-3/8 in.	68 to 72 lb/ft	7,500 psi	NC-50
10-3/4 in.	55.50 to 60.7 lb/ft	7,500 psi	NC-50
9-5/8 in.	43.5 to 53.5 lb/ft	10,000 psi	NC-50
7 in.	29 to 32 lb/ft	5,000 psi	NC-38

