

Stronghold® Barricade®+ System

Permanent Caprock Integrity

The Stronghold® Barricade®+ System is the enhanced version for perforate, wash and cement operations with revised geometry for the through-bore and bypass ports. The system is optimized to allow for higher circulation rates and better debris resistance. The system takes performance to a new level and further reduces plug and abandonment (P&A) costs by creating a rock-to-rock barrier in one trip.

With the addition of the one-trip Tubing Conveyed Perforation (TCP) module, the Barricade®+ System is designed to wash and clean the annulus of a perforated casing or liner in a selected formation zone or between casings, then accurately place a permanent barrier.

A one-trip operation with the Barricade®+ System consists of:

- Perforating the section (at which point the guns drop automatically)
- Thoroughly washing the perforated annular section
- Placing spacer fluid in the annulus using our calculated pump-and-pull method
- Placing the barrier material (typically cement) using the same technique

After the annular cleaning phase, high circulation rates and pipe rotation enhance debris removal from the washed annulus and out of the well.

The Stronghold® Barricade®+ System performs the fastest perforate, wash and cement operations in the market.

Benefits

- Field proven
- Significant time and cost savings
- Effective rock-to-rock sealing barrier
- No section milling and swarf handling
- No underreaming
- Effective one-trip system with TCP
- No surge or swarf effect

Features

- High circulation rates
- Dual swab cups either sides of washing ports
- Adjustable distance between swab cups
- Enlarged flow by-pass system
- Disconnect system available
- Ball or dart drop available
- 2x increase in flow rates
- 1-trip solutions with mechanical Cement Base available

Specifications

Casing sizes, in	9 5/8"	10 3/4"	13 3/8"	16"
Min ID, in (Inner Tube)	2.346	2.346	2.346	2.346
Circulation rate, lpm [bbl/m]	5,000 [31]	5,000 [31]	5,000 [31]	5,000 [31]
Pressure rating, psi [bar]	5,000 [345]	5,000 [345]	5,000 [345]	5,000 [345]

Adjustable distance between swab cups from 1-3 ft.