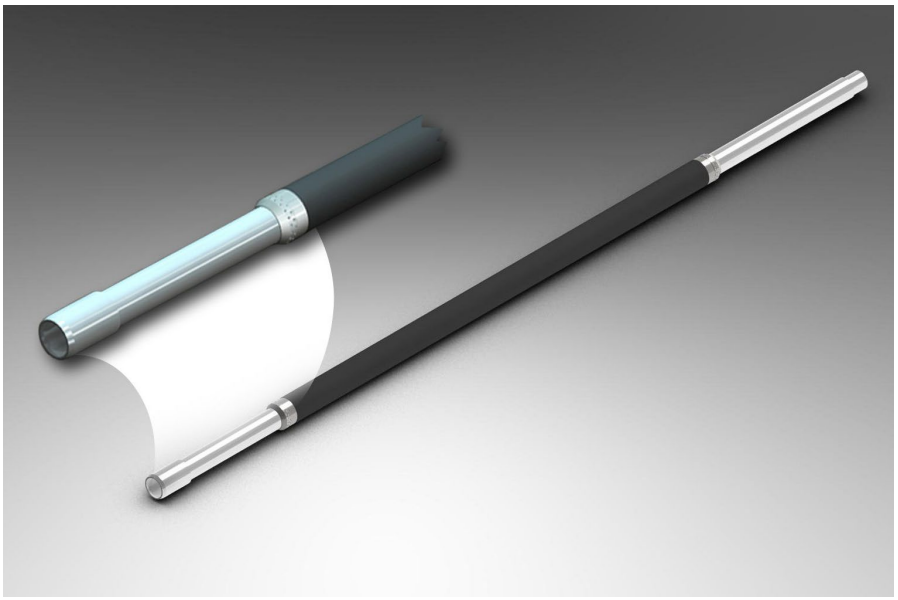
Swellpacker® Isolation System

ACHIEVE COMPLETE ZONAL ISOLATION

OVERVIEW

The Halliburton Swellpacker® isolation system is an innovative technology that offers simple, safe, and reliable downhole isolation. The Swellpacker system is based on the swelling properties of rubber in hydrocarbons, water, or both. A Swellpacker system can swell up to 200%, sealing the annulus around the pipe to achieve effective zonal isolation. Once deployed, the rubber retains its flexibility, allowing the Swellpacker isolation system to adapt to shifts in the formation over time, thus retaining the seal integrity. Additionally, the Swellpacker system's self-healing properties make this a reliable and risk-mitigating technology for all zonal isolation applications. Each Swellpacker system is bonded to a basepipe and can be delivered with any element length, only limited by the basepipe length. Because the rubber is bonded to the basepipe, it is extremely robust and can hold significant differential pressures and can be rotated or reciprocated while running in hole. After the element is bonded, the rubber element also retains its flexibility, enhancing run-in-hole effectiveness.

The Swellpacker system can be used in cased or openhole environments. In some openhole applications, operators might be able to avoid cementing and perforating altogether, reducing the costs associated with these operations. By reducing well construction costs, saving rig time, and isolating producing zones, the Swellpacker system helps enable previously unachievable levels of oilfield performance.



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FEATURES

- Can be manufactured on any oilfield tubular, coiled tubing, or other pipe
- Suitable for cased and open holes
- Robust construction
- No moving parts
- Self-healing, interventionless technology
- Can be run in most all fluid environments
- Multiple polymers available to provide oil-swelling (OS), water-swelling (WS) and hybrid-swelling (HS) solutions
- Engineered swelling delay system
- Can swell in as little as 2% activation fluid

BENEFITS

- No specialist operator required for installation
- Maintains casing integrity
- Ideal for irregular borehole geometry
- Alternative solution to cementing and perforating in certain applications
- Able to complement cement to resolve well integrity issues
- Provides an additional isolation barrier
- Helps reduce operational risk
- Isolates producing zones more effectively
- Helps reduce well costs and rig time

Swellpacker® Isolation Systems

Operating Condition	Oil-Swelling (OS)	Water-Swelling (WS)	Hybrid-Swelling (HS)	Comments
Run in hole fluid: oil-based mud (OBM)	Design to suit applications	All fluid systems	Design to suit applications	Contact Halliburton for engineered delay system
Run in hole fluid: water-based mud (WBM)	All fluid systems	Design to suit applications	Design to suit applications	Contact Halliburton for engineered delay system
Temperature range	30 to 390°F (0 to 200°C)	30 to 390°F (0 to 200°C)	OS: 30 to 390°F (0 to 200°C) WS: 250 to 390°F (120 to 200°C)	—
Reservoir fluid: liquid hydrocarbon	Wide range of crude oil tested; swelling rate is a function of fluid viscosity	Does not swell in hydrocarbons	Wide range of crude oil tested; swelling rate is a function of fluid viscosity	Contact Halliburton for design and simulations
Reservoir fluid: oil with high water cut	Swells in traces of hydrocarbon fluid	All fluid systems; swelling depends on temperature and salinity	Swells in traces of hydrocarbon fluid; water-swell depends on temperature and salinity	Contact Halliburton for design and simulations
Reservoir fluid: water	Does not swell	Wide range of fresh and saline water tested	Wide range of fresh and saline water tested	Salinity and temperature affect swell time
Reservoir fluid: gas condensate	Swells in traces of hydrocarbon fluid	Requires contact with water-based fluid for permanent seal	Swells in traces of hydrocarbon fluid	Contact Halliburton for design and simulations
Differential pressure capability	Up to 15,000 psi (1032 bar)	Up to 10,000 psi (690 bar)	Up to 10,000 psi (690 bar)	Contact Halliburton for application-specific pressure ratings
Time to set	Varies based on designs and well conditions Can be engineered for swelling times from hours to weeks			Contact Halliburton for application-specific simulations
Chemical resistance	Common oilfield chemicals			Contact Halliburton for application-specific questions
Element length	Application and basepipe dependent			Contact Halliburton for length requirement
Basepipe tensile/burst/ collapse/metallurgy	Customer supplied or Halliburton purchased to match specifications			Can be built on any oilfield tubulars

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

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