



Weatherford®

Zonal Isolation

**Inflatable and Swellable Packer
Technologies for Latin America**

Assuring wellbore integrity, enhancing
reservoir management options, and providing
long-term value in drilling, completion and
remediation applications



OUR ZONAL ISOLATION TOOLS ARE OPTIMIZED FOR LATIN AMERICA

Mitigate risks, improve well integrity and reduce well construction costs

From Brazil's pre-salt production areas to huge shale and tight oil discoveries in Argentina and Colombia, Latin America is a dynamic oil and gas producing region.

The region's wealth of reserves also brings technical challenges, including complicated wellbore geometries, depleted reservoirs and overpressured zones. Because proper zonal isolation is no longer an option—it's a necessity—we have developed reliable well construction tools that prevent annular fluid and gas migration and assure wellbore integrity.



REGIONAL ZONAL ISOLATION APPLICATIONS

Our comprehensive selection of packers and microannulus seals can provide you with efficient, customizable solutions for your wells.

-
- **Colombia**
 - Two-stage cementing
 - Cementing above the slotted liner

 - **Brazil**
 - Two-stage cementing
 - Gas migration
 - Water and sand isolation

 - **Mexico**
 - Gas migration
 - Water and sand isolation
 - Slotted liner and blank pipe production

 - **All of Latin America**
 - Casing pressure testing
 - Plug and abandon



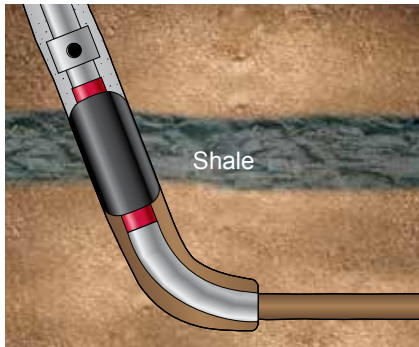


TECHNOLOGY

Inflatable Zonal Isolation Solutions

With more than 40 years of field-proven experience, Weatherford inflatable packers deliver strong and reliable performance. Our portfolio is designed to give you options for protecting and producing your well. Optimized for specific applications in Latin America, our solutions provide zonal isolation for water and gas shutoff, production segmentation, openhole testing, selective stimulation, acidizing, and plug and abandonment.

- **BULLDOG™ ACP® annulus casing packers** provide immediate results with a permanent, reliable, high-pressure seal. The tools eliminate annular flow for the life of the well while maintaining casing integrity.
- **Injection production packers (IPP®)** provide the largest expansion ratio of any packer type in the industry. The tools are also versatile, offering temporary or permanent zonal isolation applications.



Location: Colombia and Brazil
Solution: *BULLDOG ACP* annulus casing packers

Two-stage cementing

Multiple-stage cementing tools allow you to cement select intervals of the casing string in stages. When you run cementing stage tools above an *ACP* packer, the lower zone—typically the production zone—remains completely clear of cement while the upper zone is isolated by a precision cement barrier. By ensuring that cement slurry is displaced to exact depths around the casing string, this method is ideal for low-pressure formations that cannot support a full column of wet cement. Our inflatable packers provide significant rig-time savings, enhanced safety and improved wellbore integrity.

Real result: An operator faced lost circulation during second stage cementing. After installing an *ACP* packer inside the liner system, they received full returns, allowing cement to displace the water-based mud behind the liner without losses.

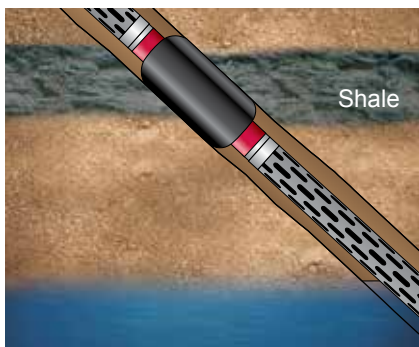


Location: Colombia
Solution: *BULLDOG ACP* annulus casing packers

Cementing above the slotted liner

Cementing above the slotted liner with our *ACP* packers can help you solve some of Latin America’s toughest geologic challenges. When a non-productive zone overpressures the production zone, or when cementing will damage the wellbore, installing our packers above slotted-liner pipe gives you a cost-efficient means of producing a well that would otherwise lie dormant. Our *ACP* packers effectively isolate the production zone while protecting your well.

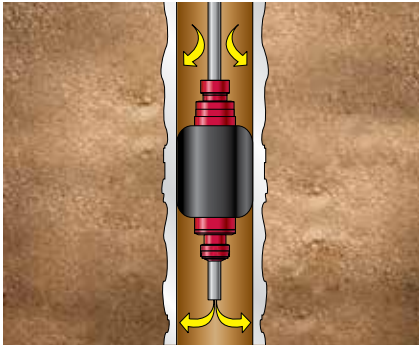
Real result: An operator needed zonal isolation above the slotted production liner without cement penetration. The *ACP* system allowed the operator to provide a high-pressure integrity seal, avoid cement damage to the formation and maintain optimal production.



Location: Southern Mexico
Solution: *BULLDOG ACP* annulus casing packers

Slotted liner and blank pipe production

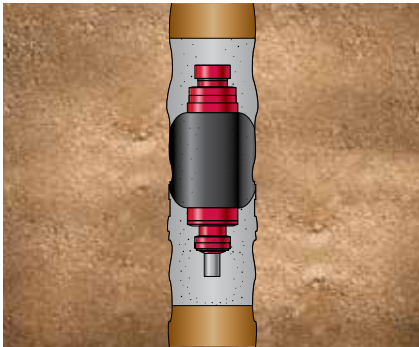
For openhole applications, slotted-liner and blank-pipe production isolates unwanted zones from direct communication into the production string. But water and sand can migrate between the formation and casing, eventually entering the production string via slotted pipe. Our *ACP* packers form the final barrier for complete zonal isolation.



Casing pressure testing

Our *IPP* packers provide a pressure-tight seal, allowing you to identify potential casing leaks and test the mechanical integrity of your well. When the packer is placed at depth and inflated to isolate the test zone, you can conduct a hydraulic pressure test and monitor for pressure loss. Our *IPP* packer can be set multiple times and will accommodate nearly any well geometry, making it a simple, cost-effective and reliable testing tool. Additionally, this packer is ideal for passing through tight restrictions.

Location: All of Latin America
Solution: Injection production packers (*IPP*)

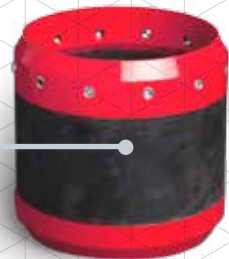


Plug and abandon

Whether one section of your entire well requires plug and abandonment (P&A) with cement, our kits deliver a safe, secure and permanent seal for non-producing wells. We reduce rig time by converting our *ACP* or *IPP* packer into a one-trip, openhole cement plug for horizontal or deviated wellbores. When properly positioned and inflated, our P&A kits effectively shut off water, oil or gas zones.

Location: All of Latin America
Solution: *ACP* and *IPP* packers

The **GENISIS**® swellable packer provides easy deployment and ultimately reduces well construction costs



Micro-Seal® isolation systems are standalone, slip on devices that provide total annular isolation

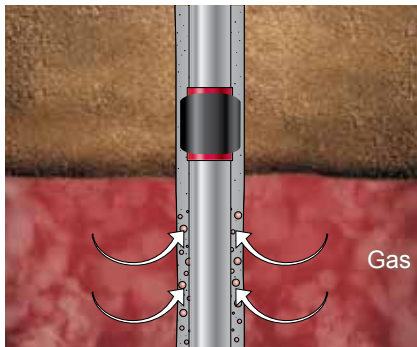


Swellable Zonal Isolation Solutions

Swellable zonal isolation tools offer a safe and cost-efficient way to mitigate gas migration and prevent water or sand ingress. Available in oil, water, or our proprietary hybrid elastomers, Weatherford swellable packers and microannulus seals can efficiently protect your production formation and strengthen well integrity.

- **Micro-Seal® isolation systems** (MSIS) prevent microannular fluid and pressure migration between the casing string and the cement sheath. These simple, economical solutions improve wellbore isolation. When deployed with our innovative mechanical cementing products, you can achieve enhanced centralization and optimized casing standoff.
- **Swellable packers** activate and seal through contact with wellbore fluids. With a full selection of one-trip, self-setting packer configurations and design features, our tools address a range of challenging wellbore geometries in cased hole and openhole applications.

APPLICATIONS

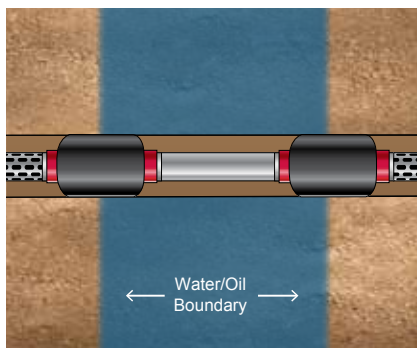


Location: Brazil and Mexico
Solution: *Micro-Seal* isolation systems (MSIS)

Gas migration

To effectively halt gas and pressure migration between the casing string and the cement sheath, our *Micro-Seal* system offers total annular isolation. This innovative solution swells into the microannular spaces that may form after the cement is in place. By strategically positioning the devices along expected problem areas, you can eliminate the need to bleed off pressure at the wellhead and reduce the likelihood of remedial cementing and workovers.

Real Result: An operator installed the *Micro-Seal* isolation system to prevent sustained annulus pressure that was experienced in a nearby well. The technology effectively sealed the microannuli that formed after cementing, negating the need for remedial cementing.



Location: Brazil and Mexico
Solution: Swellable packers

Water and sand isolation

Particularly in longer horizontal wells, water and sand influx can damage production and require remediation. Our swellable packers have no moving parts and offer cost-effective, one-trip, self-setting isolation to form a permanent barrier to water and sand zones. The packers' versatility, which allows for activation in oil, water and wet gas, gives you an advantage for planning, reliability and efficiency.

Real Result: An operator needed to maximize oil production by shutting off saltwater intrusion. Our *GENISIS* packers solved the issue without costly crossovers or additional connections. We completed the job with the same base pipe as the casing and used drilling fluid as the swelling medium.



Zonal Isolation

To discover all of the advantages of our complete selection of zonal isolation options, visit us at www.weatherford.com, or contact your authorized Weatherford representative for details.



Weatherford[®]

weatherford.com

© 2013 Weatherford. All rights reserved. 10997.00

Weatherford products and services are subject to the Company's standard terms and conditions, available on request or at weatherford.com. For more information contact an authorized Weatherford representative. Unless noted otherwise, trademarks and service marks herein are the property of Weatherford and may be registered in the United States and/or other countries. Weatherford products named herein may be protected by one or more U.S. and/or foreign patents. Specifications are subject to change without notice. Weatherford sells its products and services in accordance with the terms and conditions set forth in the applicable contract between Weatherford and the client.