

SqueezeCRETE

Repairing circulation with farther penetration in narrower gaps

APPLICATIONS

- Zone isolation in gravel packs
- Primary cementing job and casing leak repair
- Lost circulation zone sealing
- Nonproductive zone abandonment
- Penetration into difficult-to-repair and challenging primary isolation areas

BENEFITS

- Saved time and money because of reduced need for remediation activities
- More efficiency through superior channel-filling properties and complete repair isolation

FEATURES

- Capability in 4 to 160 degC [40 to 320 degF] temperatures
- Low slurry viscosity and fluid loss
- More fluid placement control with low placement pressures
- High set-cement compressive strength (CS)
- Low set-cement permeability

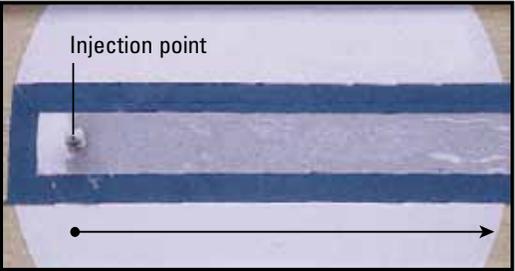
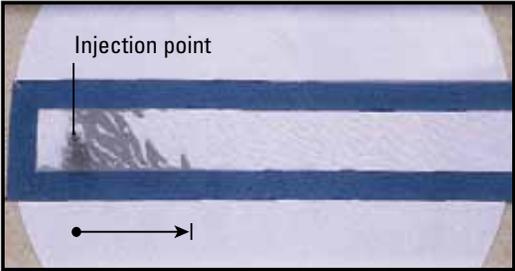
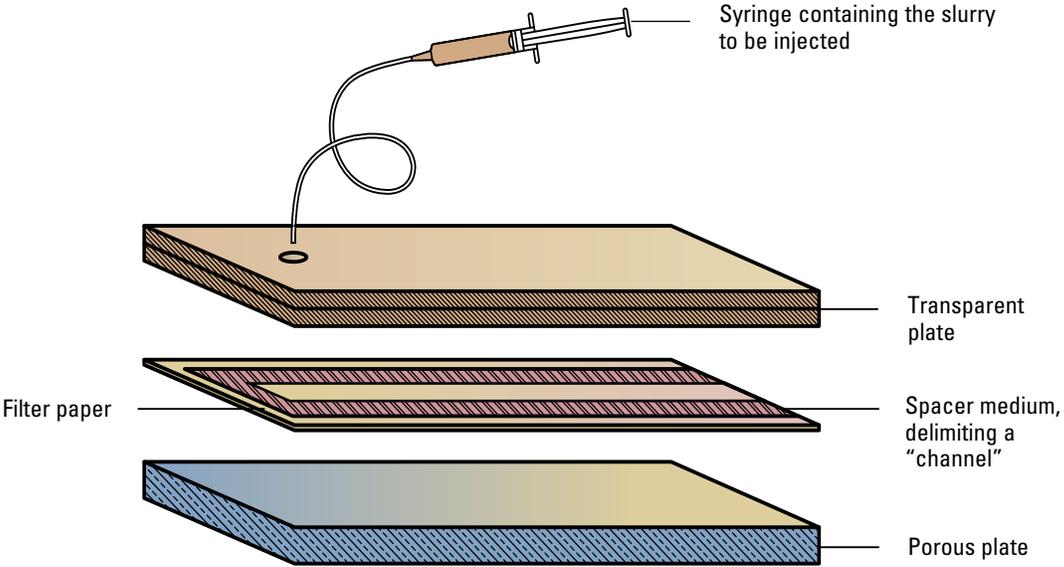
Oil and gas wells, old or new, can develop isolation problems that conventional cements cannot repair. Microannuli, leaking liners, and old perforations are just some of the problems that may yield unsatisfactory results even after multiple squeeze cement attempts.

SqueezeCRETE* remedial cementing solution is specifically designed to penetrate narrow gaps without bridging or dehydrating during placement. It injects farther and more efficiently into narrow slots than microcement and can penetrate deeper than traditional squeeze slurries.

SUPERIOR PERFORMANCE

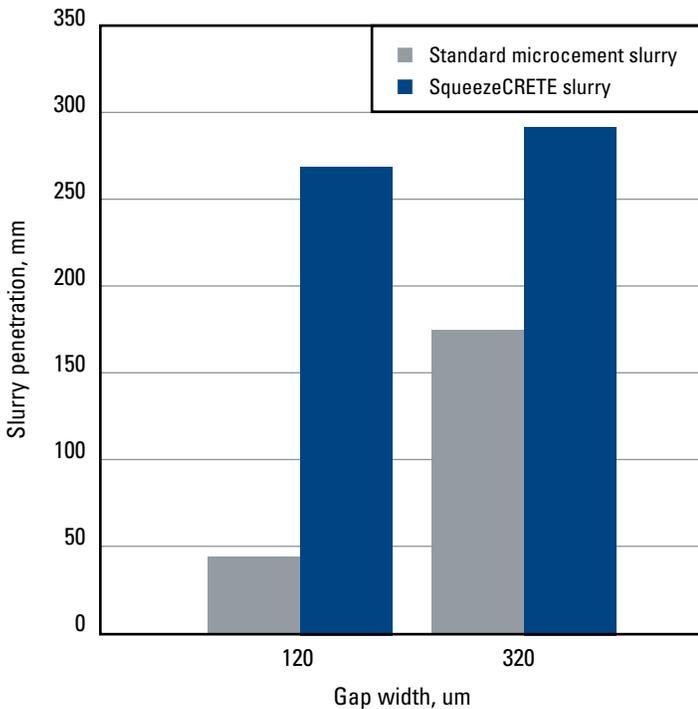
In laboratory testing, SqueezeCRETE slurry was injected in gaps as small as 120 um. Once placed, it developed more than 140-kg/cm² [2,000-psi] CS and extremely low permeability.

The system can seal liner tops, microannuli, or other areas where primary isolation has failed. It resists acid and corrosive brine, allowing the cement to seal old perforations even when future acid stimulations are planned. SqueezeCRETE slurry is prepared with existing cement equipment and perform in temperatures ranging from 4 to 160 degC [40 to 320 degF].



In this 120-um narrow-slot test, microcement bridged off just after entering the formation. The SqueezeCRETE slurry penetrated and filled the entire narrow slot, providing a complete, effective seal.

SqueezeCRETE



A standard microcement has limited penetration in narrow-slot tests. SqueezeCRETE slurry penetrates farther, even in slots 120 um wide.

CASE STUDY—MATURE WELL

A set of water-producing perforations in a mature well had to be shut off before the well could be perforated and completed in a pay zone. The old perforations could not accept a measurable injection rate of a conventional squeeze cementing slurry. To fulfill the requirements, the operator selected SqueezeCRETE technology, which allows injection and sealing off the old perforations, eliminating the expense of running an internal liner and replacing the existing completion with smaller downhole tubulars. This technology could penetrate narrow perforation gaps that conventional squeeze cement slurries could not.

Once placed, SqueezeCRETE slurry produced a low-permeability seal with high CS and acid resistance. The perforations were first soaked with acid. Then, SqueezeCRETE slurry was spotted, and pressure was applied while the cement cured. After 24 hours, the cement in the well was drilled out, and the shutoff perforations were tested successfully with differential pressure from both the well and formation sides. The well was reperforated and recompleted without difficulties, and the existing tubular string was reused, saving the operator time and costs.



SqueezeCRETE systems can be prepared on any rig type with standard equipment and no additional personnel.

CASE STUDY— MULTILATERAL WELL

In a well offshore the Middle East, the operator faced the challenge of cementing a multilateral well with a 610-m [2,000-ft] horizontal lateral. Traditionally, these multilateral wells are cemented with conventional techniques. However, the company was aware that the whipstock must be retrieved after the cement job; that good bonding and mechanical properties of the set cement were required, especially across the transition joint area; and that the liner setting tool reduced the flow area, dramatically increasing the friction pressure. A conventional slurry system could not meet these challenges. SqueezeCRETE technology was chosen for its low density, low viscosity, and high mechanical set-cement properties.

To implement the cementing solution, the bottom liner and the whipstock area were filled with heavy, viscous mud. The open hole was cemented using Class G cement with GASBLOK* gas migration control additive. Using SqueezeCRETE cement at 1,680 kg/m³ [14.0 lbm/galUS], the transition joint area was cemented. By using the SqueezeCRETE cement system, the operator saved both time and money in potential remediation activities.

www.slb.com/cementing

Schlumberger