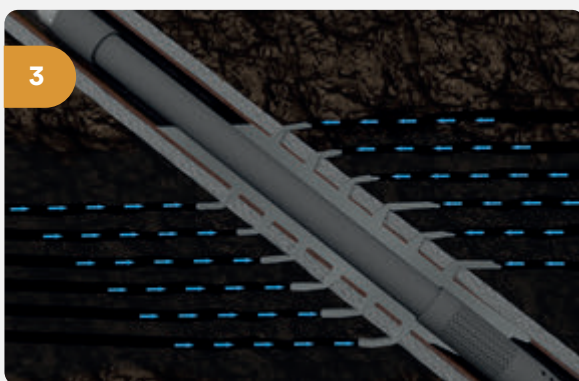
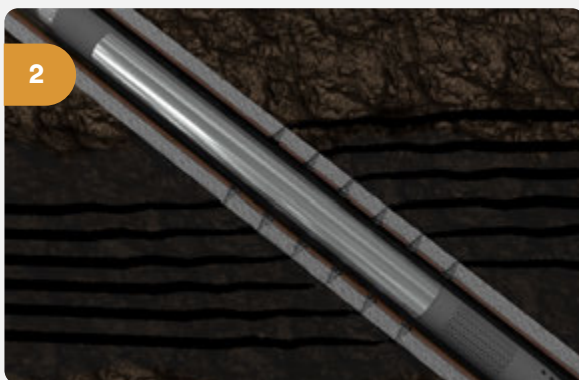
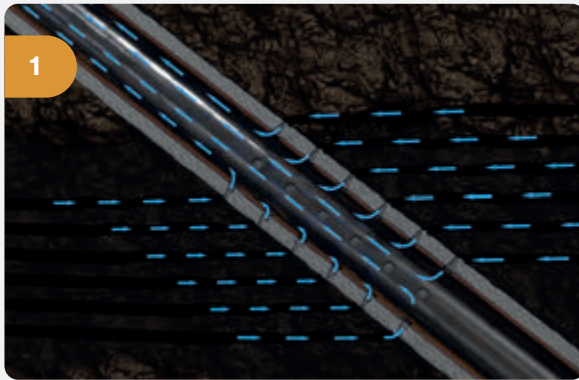


Sealing Perforations in Cased Hole Completions



APPLICATION

The Wel-lok™ Perf-lok was developed to isolate perforations in a cased hole completion for zonal isolation or well P&A. Unlike typical cement squeezes traditionally used for this purpose, the Perf-lok™ does not require squeezing as it flows into the perforation tunnels by gravity due to its viscosity and density. Applying pressure to squeeze the cement can often cause the perforations to collapse and eliminate the ability to fill the entire void. It can also be milled out inside the casing, maintaining a seal inside the perforations through its unique expansion properties.

WEL-LOK™ - AN OVERVIEW OF THE TECHNOLOGY

The Wel-lok™ technology consists of utilising a modified thermite chemical reaction heater to melt bismuth-based alloys downhole. The melted alloys have a viscosity similar to water, and a specific gravity 10 times that of water, allowing them to flow into the smallest areas of a wellbore without the need of any surface pumping equipment. As the alloys cool and solidify, they expand to provide a seamless gas tight seal that is non-corrosive and not affected by H_2S or CO_2 .

The Wel-lok™ technology consists of utilising a modified thermite chemical reaction heater to melt bismuth-based alloys downhole.



Features



WEL-LOK™ Perf-lok FEATURES

- No mechanical parts
- Electronically activated
- One trip operation
- Differential pressure ratings up to 10,000 psi
- Available in a range of sizes to suit API & non API tubing and casings
- Temperature ranges up to 160°C

KEY BENEFITS OF USING WEL-LOK™ Perf-lok FOR SQUEEZING PERFORATIONS

- Can be used even in damaged and corroded tubings and casings
- Creates a gas tight barrier without the need to pump from surface
- Non-corrosive and not affected by H₂S or CO₂
- Can seal in cased or open hole
- Millable to achieve a full bore
- Non-porous and solidifies in minutes as opposed to cement and resins