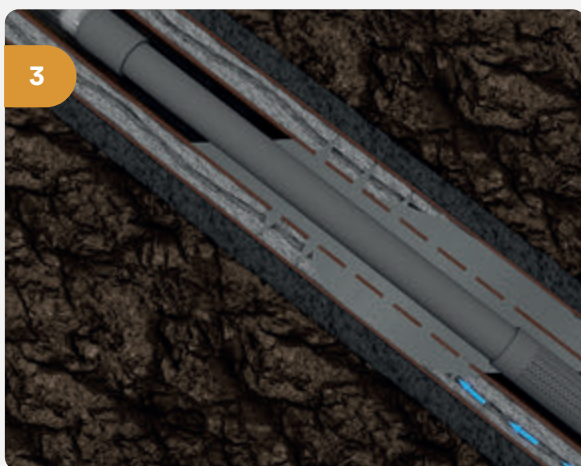
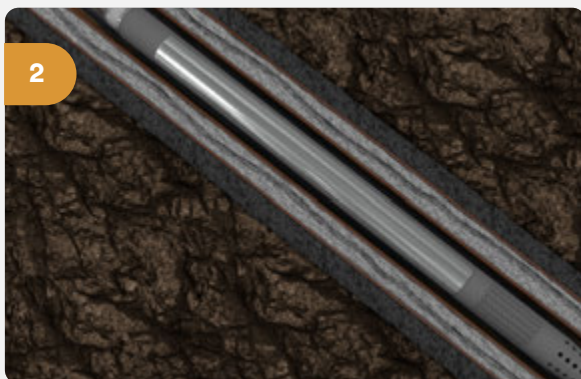
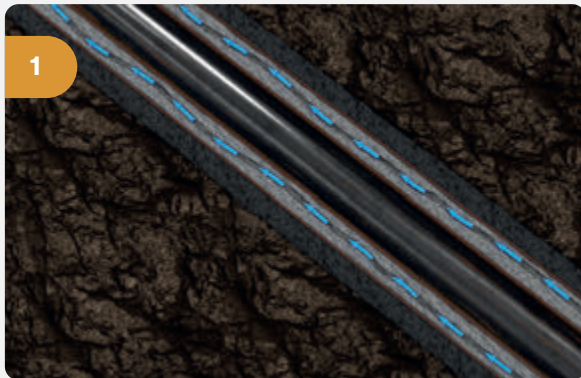


Eliminate Gas Migration in Cemented Annuli



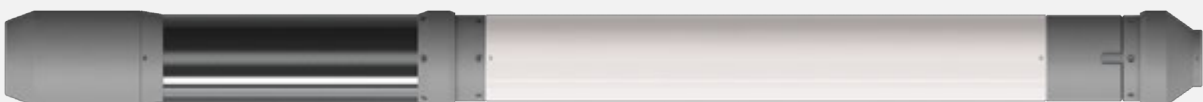
APPLICATION

The Wel-lok™ CRT (Cement Repair Tool) was developed to eliminate sustained casing pressure, or casing vent flow, in cemented annuli. Unlike traditional methods of perf and squeeze or perf and wash, this tool does not require any surface pumping pressure to squeeze or circulate the sealing material into place. The tool is also run rigless on electric line, sealing through casing perforations, so section milling is not required. The bismuth-based alloy has no porosity and solidifies to create a seal in minutes as opposed to hours with traditional cement and resins, eliminating the possibility of a micro-annulus being formed to allow future gas migration. If full bore access is required, it can be milled out and still maintain a gas tight seal in the annulus.

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 H₂S or CO₂.

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



Features



WEL-LOK™ CRT 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™ CRT FOR INTERVENTION

- 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
- Eliminates the need for expensive interventions and unreliable cement squeezes
- Reduced corporate liability