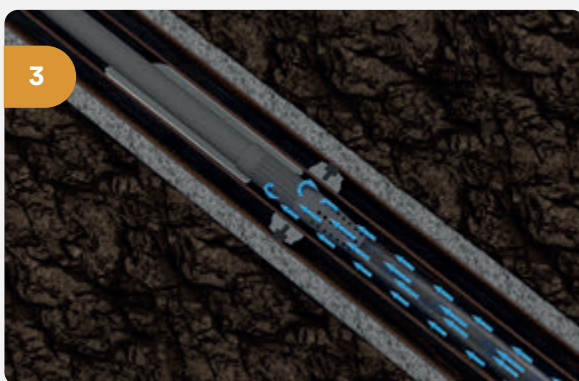
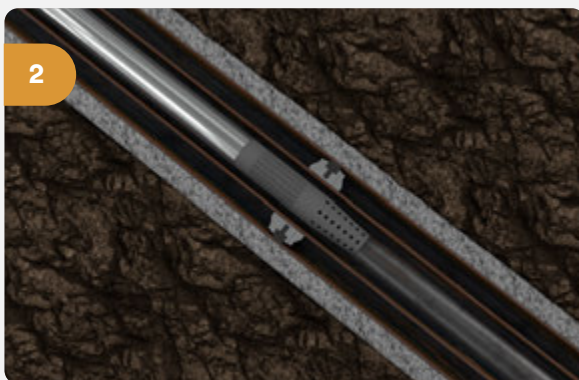
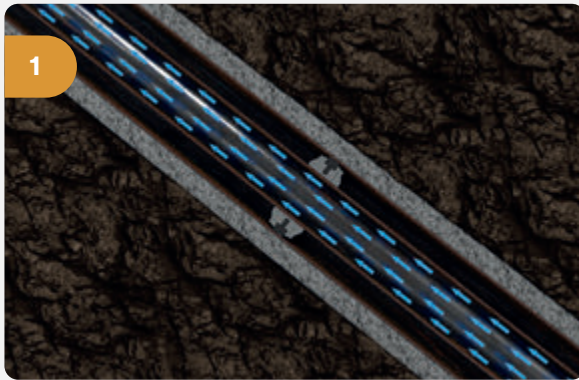


Provide a Permanent Seal in Well Abandonment



APPLICATION

The Wel-lok™ TS (Tubing Seal) was developed to overcome the shortcomings of traditional methods, using bridge plugs and cement during well abandonment. It is typically run on electric line but can be deployed on a slick line or coil tubing as well. It can pass through small restrictions such as damaged or crushed tubing, yet still create the gas tight seal. It has a higher expansion ratio than conventional plugs, higher pressure ratings than inflatable packers and gas blocking abilities that cement cannot match.

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™ TS FEATURES

- Creates a metal to metal seal without using elastomers
- Ready for pressure testing in one hour
- VO ISO 14310 tested
- No mechanical parts
- Electronically activated
- One trip operation
- Differential pressures ratings up to 10,000 psi
- Available in a range of sizes to suit API & non API tubings

KEY BENEFITS OF USING WEL-LOK™ TS FOR PERMANENT ABANDONMENT

- Can be used even in damaged or corroded casing
- Retrievable without milling
- Non-corrosive and not affected by H₂S or CO₂
- Reduced corporate liability
- Reduced intervention costs
- Reduced environmental impact
- Larger expansion than traditional plugs
- Temperature ranges up to 160°C