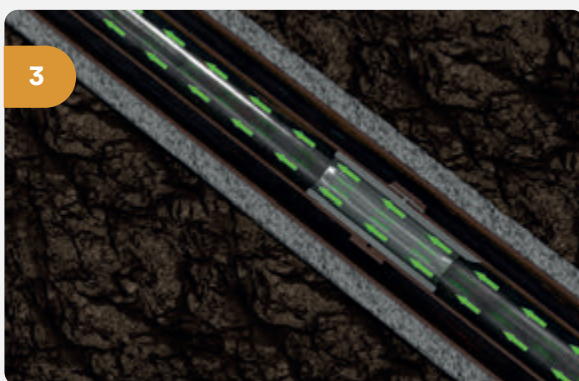
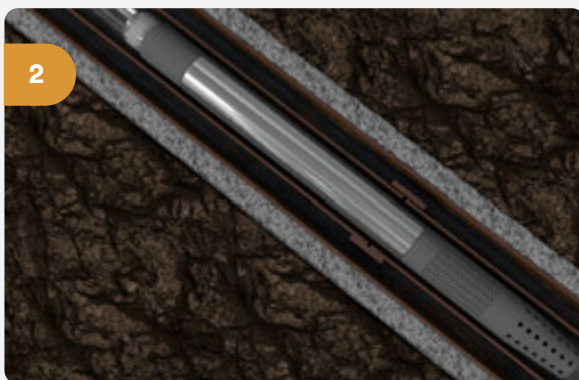
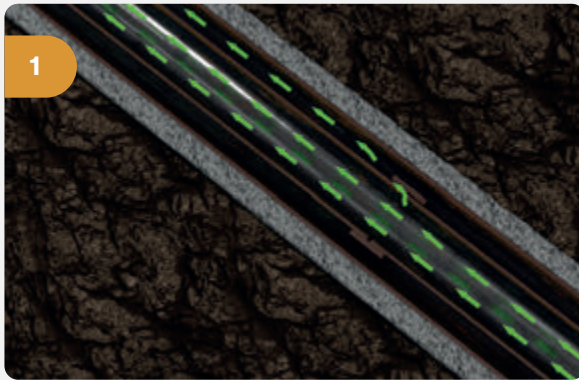


## Repairing Damaged Tubing or Casing



### APPLICATION

The Wel-lok™ CLS (Casing Leak Seal) was developed to address the shortcomings of traditional methods in sealing leaks in tubings and casings. This tool provides a VO rated seal with higher pressure ratings than conventional casing patches with a larger through bore than traditional packoffs. If full bore access is required, it can be milled out leaving a seal only across the leaking area of the well.

### 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

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### WEL-LOK™ CLS FEATURES

- Creates a metal to metal seal without using elastomers
- Ready for pressure testing in one hour
- V0 ISO 14310 tested
- No mechanical parts
- Electronically activated
- One trip operation
- Differential pressure ratings up to 10,000 psi

### KEY BENEFITS OF USING WEL-LOK™ CLS FOR INTERVENTION

- Can be used even in damaged and corroded tubings and casings
- Larger through bore than standard packoffs
- Higher pressure ratings than standard expandable patches
- Non-corrosive and not affected by H<sub>2</sub>S or CO<sub>2</sub>
- Millable to achieve a full bore
- Available in a range of sizes to suit API & non API tubing and casings
- Temperature ranges up to 160°C