

SwellPlug Permanent Perforation Shut Off System

Operationally simple and effective permanent isolation of existing perforations to allow water shut off and/or re-completion.

Throughout the life of a well, it may be necessary to isolate existing perforations for the purpose of re-completing an alternative section of the wellbore or to stop water from being produced. Traditional methods involve setting a plug, straddling the perforations or performing a cement squeeze, all of which can be complex and costly and in the case of a straddle, result in a reduced ID wellbore.

Tendeka has developed SwellPlug, a cost effective, low complexity, patent protected method to isolate existing perforations and allow water shut off or re-completion to take place. SwellPlug uses Tendeka's patented, field proven swelling elastomer technology.

SwellPlug sized swellable elastomer particles are pumped from surface into existing perforation tunnels and allowed to swell in-situ to provide an effective high pressure seal up to 10,000psi.

SwellPlug's proprietary water swellable particles use a combination of super absorbent polymers and osmotic swell mechanisms to optimise speed and strength of the swelling process and maximum chemical resistance.

Features

- Water swellable combination of super absorbent and osmotic polymers
- Pumped in aqueous slurry from surface
- Chemical and temperature resistant
- Customizable particle size distribution
- Forms tight seal when swollen

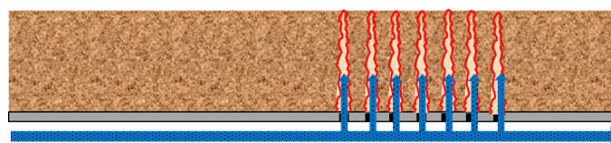
Benefits

- Remains swollen after the water is removed from the system
- Operationally simple
- Suitable for harsh environments
- Multiple uses including water shut off and re-completion
- Capable of withstanding up to 10,000psi pressure



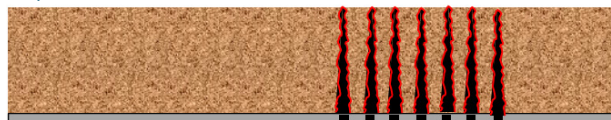
SwellPlug withstands 10,000psi

Step 1: SwellPlug slurry is pumped into existing perforations



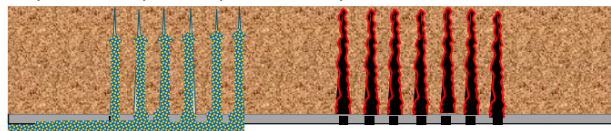
Unswollen SwellPlug has sufficiently low permeability to cause diversion of particles

Step 2: Particles swell



Swell time is a function of surface areas, temperature and fluid composition

Step 3: Re-completion operations are performed



During re-completion operations, SwellPlug maintains high pressure seal

