

Swellable Packer Overview

Tendeka's range of swellable packers and sleeves provide high performance cased and open hole sealing for water shut off, fracturing and cement replacement that can significantly improve well performance. Swellables are extremely cost effective when compared with other methods of isolation as they require no additional trips in hole and are self setting upon contact with wellbore fluids.

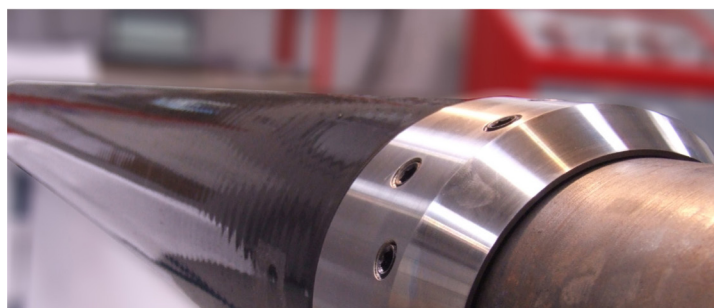
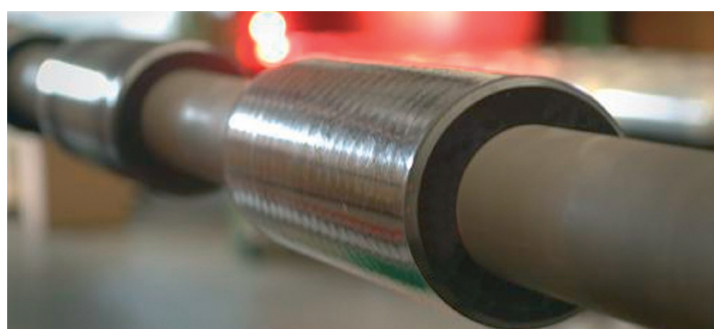
Swellables have the capacity to swell to a larger diameter than the intended hole size. As the borehole limits the packer's expansion, the unused swell creates considerable internal pressure in the element and it is this pressure that generates the sealing capacity.

The swell of the element also allows the elastomer to expand into irregular borehole geometries thus providing a positive pressure seal.

Zonal isolation and inflow control are required to prevent the cross-flow of fluids between geological layers and to reduce the volume of produced water. It is important in these circumstances to achieve the best possible seal between reservoirs.

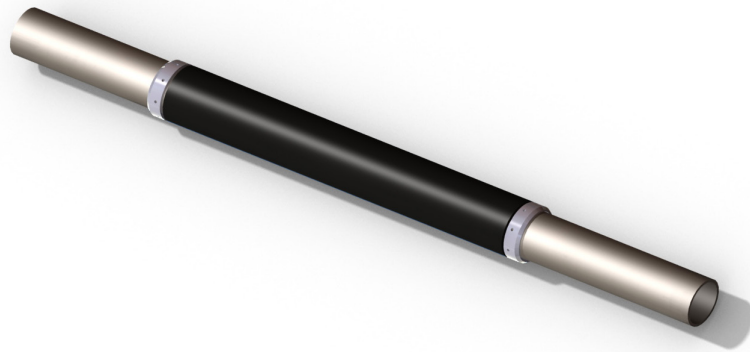
Traditionally, cement or External Casing Packers have been used for zonal isolation in wells. However, both cement and mechanical or inflatable packers typically require multiple runs in the well and historically have high failure rates and/or longevity issues.

Swellables offer a realistic alternative to these techniques and they do not require any setting tools or other intervention operations. Simply run them in the well as part of the liner, casing or completion string and let nature take its course for a lower cost, high integrity solution.



SwellRight™ Packer

Tendeka's standard swellable packer range is available as an oil or water swelling elastomer. This single element design uses a patent pending bonding process to provide high performance over short element lengths. SwellRight™ packers are available from stock in sizes from 2 3/8" up to 13 3/8" and utilise Tendeka's proprietary oil and water swell compounds. SwellRight™ packers are best suited to wells where the downhole temperature is between 172°F and 266°F (80°C and 130°C) and provide a differential pressure rating up to 7,500psi.



SwellRight™ Sleeve

This low profile, slide-on, swellable sleeve is available as an oil or water swelling elastomer. The sleeve is available in one foot and three foot lengths providing 3500 psi differential pressure in a 172°F to 266°F (80°C to 130°C) operational temperature range. Available from stock in standard sizes from 4" to 8 5/8" pipe, this sleeve is optimised for cased hole applications and in-gauge open holes.



SwellFix™ Packer

Tendeka's high performance packer range is designed to operate in temperatures from 32°F to 392°F (0°C to 200°C) and up to a 10,000 psi pressure differential. Based on Tendeka's proprietary osmotic water swell compound this packer generates more radial seal force than any other swell packer on the market. Additionally, this is the only water swell compound fully compatible with completion fluids including acids and brines with no shrinkage experienced after exposure to these fluids.

The multi-element design provides extreme flexibility with respect to swell duration and fluid compatibility as it allows water and oil swell elements to be used in combination. Elastomers are applied in one foot bands along the length of the base pipe.



SwellFix™ Sleeve

This multi-element sleeve design uses the same high performance compounds as the SwellFix™ packer. The dual elements provide flexibility allowing oil, water or a combination of swell elastomers to be utilised. This slip on sleeve can hold up to 1600 psi differential pressure across a temperature range of 32°F to 392°F (0°C to 200°C.) Due to its integral steel core and bi-directional elements the SwellFix™ sleeve is designed to perform in the most demanding open hole conditions.

