

SWELLABLE ISOLATION SEALS

SIS / αSIS / ϕSIS

Isolation seals can be critical to a successful well screen / ICD screen installation, particularly in heterogeneous horizontal wells. Proper compartmentalization decreases water intrusion, excludes shale's, increases output and ensures that the inflow control systems perform as per design.

In many applications it can be shown that increasing compartmentalization improves ultimate recovery. As the heterogeneity increases and in wells with high mobility contrast, numerous compartments may be required for optimum control. In sand control applications, stopping the annular flow in the SAS completion allows for a uniform natural pack to be created around the screens avoiding premature plugging and erosion.

Swellable isolation seals provide a very cost effective means of establishing zonal isolation, inflow control and enhanced screen life

They come in 3 main categories:

SIS - Manufactured directly onto pipe

This design allows for longer sealing lengths with multiple elements and higher differential pressures up to 700 bar.

αSIS – Slip-on sleeve design

The slip-on design provides flexibility for wells with various spaced out zones. Differential pressure up to 125 bar.

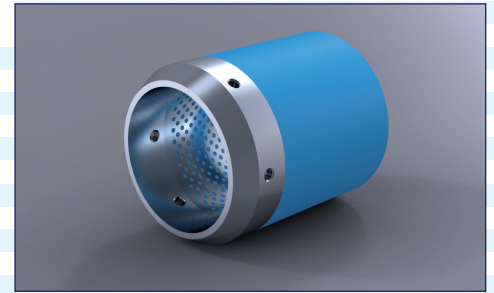
ϕSIS – Slip-on sleeve design

Typically used for wells with ICD's and Screens. Short lengths and differential pressure up to 20 bar.

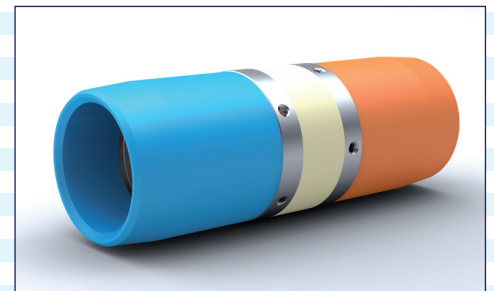
Features

The swellable isolation seals provide:

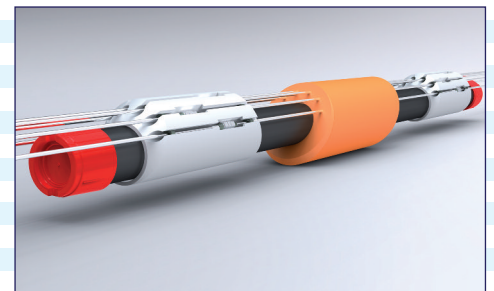
- Zonal isolation and inflow control
- Decreased water influx
- Isolation of loss zones
- Improved recovery
- Prevents annular flow
- Homogenous sand pack on SAS
- Enhanced screen life
- Strong, durable and self healing seal
- No additional running tools or site crew



SIS single element design (slip-on-sleeve)



αSIS multi element design (slip-on-sleeve)



SIS multi element design with an example of cable feed through

Customized design

The design is customized to your demands;

- Swelling activation with water, oil, acid, hybrid or high temperature
- Elastomers designed according well data
- Designed for cased and open hole completions
- High temperature applications up to 3000C
- High salinity applications
- Color coded elastomers
- Special seal lip for improved sealing
- Multi-element design for enhanced sealing performance
- Easy RIH with self-cleaning asymmetric design and beveled outer ends