

Invashield – A High Performance Formation Friendly Low Invasion Fluid Loss Additive to convert most Drilling Fluids to LIF's and address Mechanical Instability challenges.

Invashield is a cost-effective low invasion additive which due to its unique Particle Size Distribution converts most Water Based Drilling Fluids systems into Low Invasion Fluids. It is a blend of plant based organic fibres and is thermally stable up to 350°F. The ability to form flexible deformable virtually impermeable plugs within the fracture addresses seepage losses as well as prevents pressure transmission to the formation, thereby greatly reducing the mechanical instability challenges faced.

Why Invashield?

- Environmentally friendly
- Powdered material for ease of mixing
- Forms aggregates of various lengths eliminating the need to match PSD to pore throat dimensions.
- Does not degrade over time and circulation
- Protects mechanically weak formations, reducing mechanical instability
- Increases fracture formation pressures, lending itself well to increasing LOT/Fracture Gradient etc.
- Prevents induced losses
- Minimises Differential Sticking
- Minimises fluid transmission to the formation, making it an ideal choice for weak/sub-hydrostatic reservoir drilling



A near instantaneous thin and very low permeability barrier is formed on the wellbore interface. This barrier prevents the transmission of fluid pressure into the formation via microfractures, natural or induced. The retention of fluid column pressure within the well bore results in the following:

- The wellbore is competent to maintain an overbalance thereby preventing cavings and instability in mechanically unstable formations with micro-fractures or bedding planes. This ability to restrict transmission of pressure from the wellbore to the formation also minimises the risk and incidents of differential sticking.
- Induced fractures in mechanically weak rocks is inhibited as pressure transmission to the formation is prevented, thereby ensuring fractures do not propagate. This in turn minimises the risk of induced losses when drilling overbalanced or within narrow ECD windows. Typically fracture initiation pressures are raised, widening the mud weight window.
- Invashield creates a very thin cake near the wellbore but is not a bridging particle. This ensures extremely low formation damage due to minimal fluid invasion into the formation. Being very close to the surface as well as not plugging the pore throats, filter cake clean up and flowback is very easy.

INVASHIELD R dosage is typically between 6 – 10 ppb. Formation of aggregates of various lengths allows Invashield to be applied as a fluid invasion restrictor over a wide range of permeabilities. Invashield would typically perform in formations with fractures in the range of 100-250 microns.