

FIX SERIES

Synergistic additives designed to 'Fix' wellbore stability and lost circulation

Newpark's **FIX™ Series** of engineered additives are designed to improve wellbore stability and prevent and manage lost circulation in the most challenging well conditions. **Four synergistic solutions, (NanoFIX™, PreFIX™, ProppFIX™, and FracFIX™),** may be utilized individually or as a synergistic blend to strengthen the wellbore, improve filter cake quality, and provide solutions to a range of loss scenarios, from seepage to severe losses.

Overall system function and application

With Newpark's FIX range of additives, you can drill weak formations or depleted zones with confidence. Applied as a flexible, scalable solution during drilling operations, either as a single treatment or a combination of one-sack FIX additives, the FIX Series allows operators to prevent losses by proactively strengthening the wellbore, manage moderate losses, and remediate larger fractures.

NanoFIX fluid loss control additive

NanoFIX nanoparticle-scale fluid loss control additive may be used in drilling fluids to control fluid loss and improve filter cake quality. NanoFIX seals microfractures to prevent seepage losses and facilitate the deposition of a thinner, stronger, and less permeable filter cake, contributing to lower torque and drag in all fluid types. Adding NanoFIX to the fluid system helps to improve wellbore strengthening and reduce the risk of induced losses.

NanoFIX:

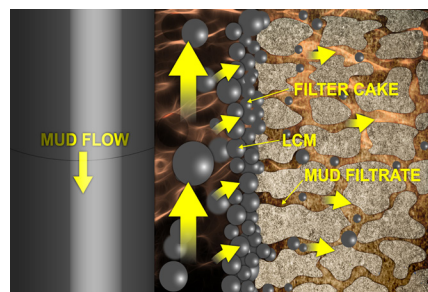
- Contributes to wellbore strengthening
- Compatible with all fluid types
- Has no impact on fluid rheology
- Supports reduction of oil on cuttings
- Supplied as liquid—safe and easy to handle

DESIGNED FOR:

- Strengthening weak or depleted zones
- Managing losses from seepage—severe
- Suitable for all fluid types

ADVANTAGES:

- Low attrition rate wellbore strengthening material
- Plugs and seals pores and small fractures
- Versatile and synergistic additives—simplified logistics
- Reduces risk of differentially stuck pipe
- Plugs fractures up to 2,000 microns in laboratory testing
- Robust—temperature stable up to 350°F/177°C



PreFIX seepage control blend

Engineered for use in mechanical wellbore stabilization applications, PreFIX minimizes whole mud seepage losses, improving filter cake quality and reducing the risk of differential sticking. PreFIX is also designed to enhance wellbore strengthening—either on its own or in combination with other FIX additives—by providing low permeability plugging and sealing of pores and small fractures in the wellbore.

Formulated from a combination of compressible material types and sizes, Newpark's PreFIX blend:

- Controls seepage loss and minimizes filtrate invasion
- Provides fracture-tip isolation to prevent propagation
- Reduces risk of differential sticking

PreFIX is compatible with all drilling fluid types and temperature stable to 350°F/177°C.

ProppFIX bridging blend

An engineered blend of fine-medium cellulosic, graphitic, and elastomeric granules, Newpark's ProppFIX blend is designed to bridge fracture widths up to 1,000 microns.

ProppFIX is designed primarily as a wellbore strengthening agent for drilling depleted formations, although it may also be used as a treatment for lost circulation.

To maximize ProppFIX's performance, it is recommended to use in conjunction with PreFIX seepage control blend.

ProppFIX:

- Supports formation of an impermeable plug in the fracture, isolating the frac-tip from wellbore pressure
- Keeps induced fractures open, facilitating wellbore strengthening through the development of hoop stress
- Can be used as a whole mud treatment with regular additions for maintenance

ProppFIX is compatible with all drilling fluid types and temperature stable to 350°F/177°C.



PreFIX



ProppFIX



FracFIX one-sack lost circulation remedial blend

Composed of medium-coarse granular material plus micronized fiber, Newpark's FracFIX bridges and plugs larger natural fractures to mitigate heavy losses while drilling. FracFIX may also be applied as a wellbore strengthening additive for treatment of severely depleted zones, plugging fractures as large as 2,000 microns. To maximize FracFIX's performance, it is recommended to blend with PreFIX and ProppFIX.

FracFIX:

- Bridges, plugs, and prevents the propagation of induced fractures of 2,000 microns or greater
- Can be used to strengthen wellbores by supporting the development of hoop stress in static (pill) applications
- Can be used to manage heavy losses to large fractures of vugs as part of a lost circulation treatment

FracFIX is also compatible with all drilling fluid types and temperature stable to 350°F/177°C.



FracFIX

Put the right solution to work in your next operation

Explore our full portfolio of lost circulation materials.

Find your best solution at [newpark.com/total-fluids-solutions/fluids-systems-additives/lost-circulation-solutions](https://www.newpark.com/total-fluids-solutions/fluids-systems-additives/lost-circulation-solutions)