

# ZetaFlow<sup>®</sup> Proppant-Control, Fines-Control, and Load-Recovery Agent

Increases the maximum sand-free rate (MSFR) and reduces fines migration

## Applications

- Slickwater, linear-gel, and borate crosslinked-gel fracturing operations

## Features and Benefits

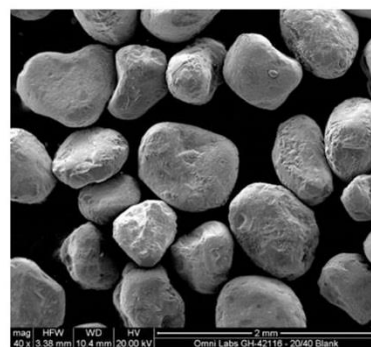
- Can be used in place of curable resin-coated proppants
- Controls the migration of damaging fines to optimize production
- Leaves the formation in the optimal wetted condition
- Can be added to stimulation fluid on the fly during fracturing or sand-control operations
- Enhances the load recovery of treatment fluids
- Is easy to use

## Tool Description

The ZetaFlow agent is compatible with many formation types including a variety of sandstones, coals, and shales. By modifying the zeta potential of proppant surfaces and bringing them to near-neutral values, the ZetaFlow agent increases the potential for particle agglomeration and aligns the proppant to enhance the conductivity of the proppant pack.

The agent achieves fines control in a similar manner: Treating formation particles with the ZetaFlow agent minimizes the zeta potential of the fines to promote particle agglomeration. This process fixes potentially production-damaging particles in place without restricting production flow. The unique chemistry of the ZetaFlow agent leaves the formation less hydrophilic and in the optimal wetted condition for increased load recovery.

The ZetaFlow agent can be deployed on the fly in slickwater, linear-gel, and borate crosslinked-gel applications by continuously adding the solution at a constant loading level. The amount of ZetaFlow agent needed depends on the quantity of proppant. Proper chemical loadings for remedial cleanup treatments are engineered to the specific application.



Top: Proppant prior to treatment with the ZetaFlow agent

Bottom: Proppant after treatment with the ZetaFlow agent



**Weatherford<sup>®</sup>**

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## Specifications

### Physical Properties

Appearance	Clear, dark liquid
Density	8.59 to 8.76 lb/gal
Specific gravity	1.03 to 1.05
pH	5.7 to 6.9
Flash point	88.3°F (31.3°C)
Ionic charge	Cationic
Solubility in water	Dispersible
Freeze point	−49°F (−45°C)

\* ZetaFlow is a registered trademark of Weatherford in the US, Canada, and the European Union.

