

HEG-FL15

Technical Data Sheet

Our next-generation friction reducer (FR) represents a major advancement in water treatment flow optimization. This patented FR is developed using a proprietary gel polymerization process, resulting in a significantly higher molecular weight than conventional alternatives on the market. The increased molecular weight dramatically enhances flow performance, enabling effective treatment with reduced polymer dosage.

In addition, our innovative manufacturing approach allows for the integration of complementary chemistries, expanding the product's versatility across a wide range of water treatment applications. This breakthrough not only delivers superior performance, but also promotes cost efficiency and environmental responsibility by minimizing overall polymer consumption. Our next-generation FR sets a new benchmark in water treatment, offering powerful, adaptable solutions for today's most demanding system requirements.

Case Study FR²

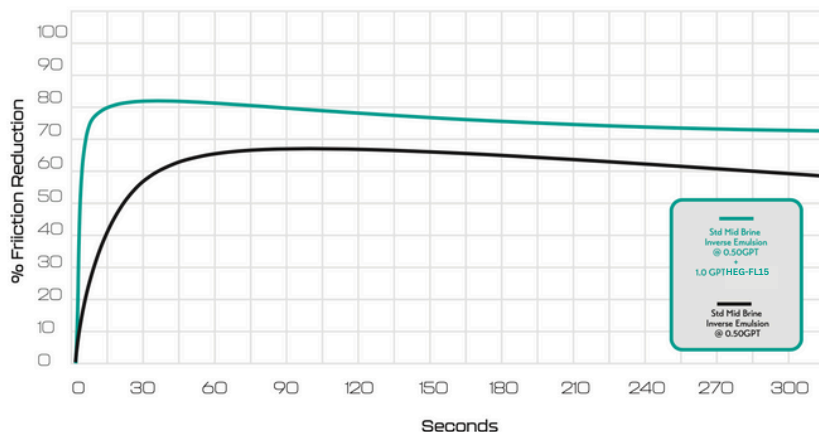
Case Study: K-AFR in Southeast New Mexico

Background: At a frac site in Southeast New Mexico, the primary friction reducer (FR) used was a high-viscosity HVFR inverse emulsion.

Solution: HEG-FL20, formulated with a preferred scale inhibitor and surfactant, was introduced to enhance performance and reduce costs.

Results: Using HEG-FL20 reduced the HVFR loading by 50%, while maintaining effective scale inhibition and surfactant performance. This led to a cost savings of over 35% without sacrificing performance.

Conclusion: HEG-FL20 significantly improved operational efficiency and cost-effectiveness, demonstrating its superior capabilities in friction reduction for the oil, gas, and water treatment industries.



Notes on testing:

- IE is well established Mid brine
- Water was synthetic Brine @ 35K TDS
- Brine had a Langolier scaling index of 3.5
- Temperature was 22C
- Results will vary depending on loading of HEG-FL15

Directions for Use:

HEG-FL15 may be used as a standalone friction reducer or blended with frac additives to generate effective traditional friction reducer booster. Contact your local HEG representative for a detailed analysis on dosage for your frac.

GET HEG - FL15

Physical Properties:

Appearance & Color	Clear / water white
Charge	Anionic
Stability	Infinite
Regulatory Status	Non Regulated
pH	6.5-7.5 (neutral)
Density	1.010-1.050
Packaging	Totes and bulk

Recommendations given in this data sheet are based on tests believed to be reliable. However, the use of the information is beyond the control of Heartland Energy Group Ltd., and no guarantee, expressed or implied is made to the results obtained if not used in accordance with directions or established safe practice. The buyer must assume all responsibility, including injury or damage from the misuse of the product as such, or in combination with other materials. This bulletin is not to be taken as a license to operate under or recommendation to infringe any patent.