

CASE STUDY

EZFloc™ Improves Wastewater Clarification Reliability and Reduces Costs at a Metals Recycling Facility

Background

A large metals recycling facility in the southeastern United States processes both ferrous and non-ferrous scrap metals, including steel, aluminum, copper, and brass. The site operates an advanced recovery system utilizing shredders, shears, ball mills, and separation equipment to reclaim valuable metals while treating approximately 1,200 gpm of process wastewater containing dirt, oils, and fine metal particulates.

During the winter months, ambient temperatures at the plant periodically drop below 32°F, causing the feed lines and injection points to freeze and become inoperable. This disrupted clarifier performance, forcing unplanned shutdowns and resulting in lost production.

In addition to these challenges, site operators were seeking to improve reliability and reduce the cost of the treatment program.



Solution

The ChemTreat team recommended EZFloc™, an oil-free anionic suspension polymer product. EZFloc offers multiple advantages over oil-based polymers, including improved cold-weather functionality, ease of application, and enhanced clarification performance.

In jar and bench-scale tests, EZFloc demonstrated superior solids settling and water clarity compared to the existing polymer treatment.

During the full-scale trial at the facility, this technology delivered consistent performance under cold conditions with no freezing or feed system issues. EZFloc was fed into the existing make-down system and did not require operators to purchase or install new equipment prior to application.

As a result of the enhanced EZFloc performance, dosage was reduced by 41% with improved water quality and reliability.

Results

Applying EZFloc provided clear operational and economic benefits for the facility:

- **26% reduction in polymer treatment costs.**
- **Over \$30,000 in estimated annual savings.**
- **Improved clarifier performance and wash water clarity, generating better-quality water at a faster pace to support water reuse initiatives.**
- **Elimination of winter freezing issues, which improved system reliability and increased uptime.**
- **Streamlined handling thanks to lower product viscosity, which eliminated the need for specialized pumps and simplified the mixing process.**

Pleased with the results, the facility transitioned fully to EZFloc treatment in the clarifier circuit and began evaluating EZFloc products for application in other areas of the plant.

Results are examples only. They are not guaranteed. Actual results may vary.