

Efficient Problem Solvers for Phosphating and E-Coat Wastewater

Phosphating and cathodic electrocoating (e-coat) are two established processes for the industrial surface treatment of metal components, used in particular in the automotive and mechanical engineering industries.

Phosphating creates a crystalline conversion layer that improves corrosion resistance and paint adhesion, making it the ideal pretreatment before cathodic electrocoating (e-coat). This is an electrochemical dip-coating process that produces a uniform base coat, reaches even into cavities, and provides high corrosion protection. Together, the two processes form the standard for durable corrosion protection systems in series production.

Wastewater Treatment and Its Challenges

Phosphating and e-coat processes generate wastewater containing metal, phosphate, and organic loads from pretreatment, rinsing, and coating stages. Typical contaminants include oil and surfactant loads, phosphates, heavy metals, and organic paint residues and emulsions. Treatment is made particularly difficult by complex-bound metals, high phosphate loads, fluctuating wastewater composition, and increased sludge volumes.

From Practice, for Practice

Case 1:

Turbidity in the clear phase with extended sedimentation times and difficult clear water discharge. Recurring problems at the filter press as well as elevated zinc readings.



without ZetaPol 1113-Clear

with ZetaPol 1113-Clear

= perfect sludge quality

The use of **ZetaPol 1113-Clear** produces an excellent clear phase with rapidly settling sludge and an optimally dewaterable filter cake.

Case 2:

Poor floc formation with long sedimentation times and turbidity, as well as a clogged press due to high degreasing loads.



without ZetaPol 1113-Clear = poor sludge quality

with ZetaPol 1113-Clear

With **ZetaPol 1113-Clear**, the problems could be fully resolved. The clear phase is excellent, sedimentation is fast, and the sludge is optimal.

Case 3:

High degreasing loads cause turbidity in the water; oil loads block the filter cloths and lead to increased cleaning intervals.



without Evo-Flock & ZetaPol with Evo-Flock-Clear & ZetaPol = perfect sludge quality

With **Evo-Flock-Clear 07** and **ZetaPol 1113-Clear**, the clear phase is clear again, the sludge is optimally conditioned, and the cleaning intervals are extended to a maximum.

Solutions from the Clear Product Line by F&S

With **ZetaPol 1113-Clear**, F&S offers a next-generation reaction separating agent. It resolves sedimentation problems, turbidity caused by degreasing and oil loads, and poor sludge consistency, making it a reliable problem solver for the most demanding applications.

High degreasing and oil loads, which negatively affect sludge quality, are safely bound in the sludge when combined with **Evo-Flock-Clear 07**. This permanently eliminates problems at the filter press.

If these problems define your daily operations, if your staff must regularly perform time-consuming cleaning on the chamber filter press, and if collection tanks are constantly overflowing, please contact us. Our field sales team will be happy to advise you individually.

With the products of the Clear range, cloudy times are a thing of the past.