

TEXTILE DYEING & DENIM WASH

Waste Water Treatment Solutions



CASE STUDY

Textile dyeing operations face paramount challenges around the world, today and in the near future. Known as huge water consumers, textile plants have to adapt for these new demands and requirements from authorities but also, and most important, from society, which no longer accepts to have to deal with their environmental footprints. Thus, changing existing plants or building new ones are the most urgent actions to be taken from these companies. But in both cases, care needs to be taken in choosing the right solutions to achieve the right goals, from simple reject into municipal sewer systems or to comply with the most stringent demands like ZLD (Zero Liquid Discharge), more and more popular amongst large textile producing countries. In all these alternatives, new technologies have to be introduced, as traditional approach is no longer compatible with these demands and requirements. New AOP (Advanced Oxidation Processes) like electro-coagulation and perozonation, alone or together, are the key technologies to introduce in revampings, retrofits or new plants to reach this challenging new reject limits, comply with most stringent regulations and allow for efficient and profitable reuse, adding value to the process.

What do they do?

Our customer is trusted worldwide for impeccable production standards and thorough quality control processes for slide fasteners, plastic hardware, hook and loop fasteners, webbing tapes, and snap and buttons.

What are they trying to achieve?

The world leader in zipper manufacturing was facing compliance problems with surfactants rejection levels, associated with very stringent COD rejection limits.



SOLUTION

Even though many plants use chemical and biological water treatment systems, compliance issues, difficulty in reusing treated water and operating costs are still a struggle. So, the key to overcome these problem lies on oxidative pre-treatment, such as adding an electrocoagulation process to a biological one. In fact, such technology involves a powerful oxidation process which removes detergents and surfactants, solving Chemical Oxygen Demand (COD) problems, removing color, decreasing salinity, and preparing effluent to recovery and reuse plants. Electrocoagulation really is the future for water treatment in the textile industry, in particular for plants which present high salinity levels, increased reject water volumes, alarming operating costs, and overall, low efficiency indicators.

RESULTS

These technologies combined allowed for total removal of color, surfactants and, consequently, COD and BOD. At the end of the day, clean and clear water comes out of our client's plants, at a flow rate of 6 m³/h. Also, the company at stake now presents lower operating costs and decreased sludge production. Efficiency that outperforms by a lot a standard chemical process.



DATA RESULTS:

Customer had to comply with most stringent reject limits, as reject goes directly into a water stream connecting to a river. Main concern was with colour and detergents levels.

Requested results were attained : total solids removal, total colour removal, tensioactives below 2 ppm, final COD below 120 ppm, all other parameters within reject limits for direct Environmental discharge.

2 PPM
TENSIOACTIVES BELOW

120 PPM
COD BELOW

