SIGMA DAF Clarifiers

Case Study

Wastewater treatment and reuse from the Textile Industry: DAF technology. Case of ACAPERSA

Year 2011

Project location Textile Factory ACAPERSA, Valencia.

Objectives Design and installation of a wastewater treatment plant to obtain very high quality water for **reuse in the process**, in addition to compliance with the discharge directives.

Installed equipment
- Physical-chemical system: coagulation-flocculation.
- Clarifier SIGMA DAF FPBC-CPF.

Capacity 5 m^3/h.

Wastewater characteristics: OPAQUE WHITE COLOR		
COD (mg/L)	TSS (mg/L)	Turbidity (NTU)
11630	470	2890

Removal efficiency of the physical-chemical and DAF treatment		
COD	TSS	Turbidity
90%	95%	96%

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Wastewater from the textile industry is characterized by a high content of suspended solids, COD, colour and turbidity. There is a growing need for water reuse, which involves the removal of these contaminants through the use of high performance technology. SIGMA designs and installs intensive and effective treatment processes that include advanced technologies to allow them to meet reuse quality requirements. In the case of ACAPERSA, SIGMA designs and builds the pre-treatment of the residual effluent from the process. This pre-treatment is made up of a physical-chemical process, consisting of a coagulation and flocculation system, followed by a DAF FPBC model CPF equipment.

The pre-treatment designed and installed by SIGMA achieves COD removal performance of 90%, removal of suspended solids of 95% and removal of turbidity and colour by 96%. These high yields are achieved thanks to the correct dosage of reagents and the special design of the FPBC-CPF equipment.

The reagent dosage is established by Jar-Test with samples of the waste water. In the case of ACAPERSA, Aluminium Polychloride and a cationic polyelectrolyte are applied with optimal affinity for suspended solids and particles present in water.

Separation of suspended solids, COD, colour and turbidity in SIGMA DAF equipment:

- High and constant quality of clarification.
- Quick start-up.
- Minimal sludge production (sludge concentrations of up to 5%, much higher than those achieved by conventional settlers)
- Easy to operate with simple, adaptable and effective control systems.
- Known technology, flexible to each specific case and robust.

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