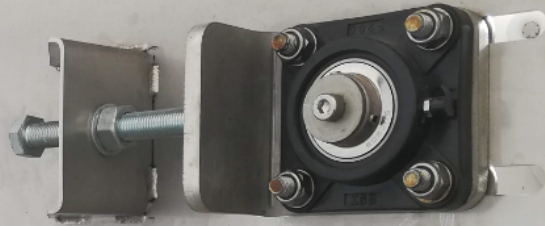


CASE
STUDY



SIGMA DAF
Clarifiers



Wastewater Treatment for a Metalworking Company

Year: 2020

Project Location: A SNA Europe manufacturing facility in Junqueira, Portugal

Objectives: Pre-treatment to remove oil and fat residues and metal and glass particles from the effluent before it's treated in an aeration tank.

Installed Technology: Tanks and system for polyelectrolyte preparation, in-line flocculation system SIGMA PFL010 and clarification system SIGMA DAF FPAC10

Capacity: 2,640 GPD

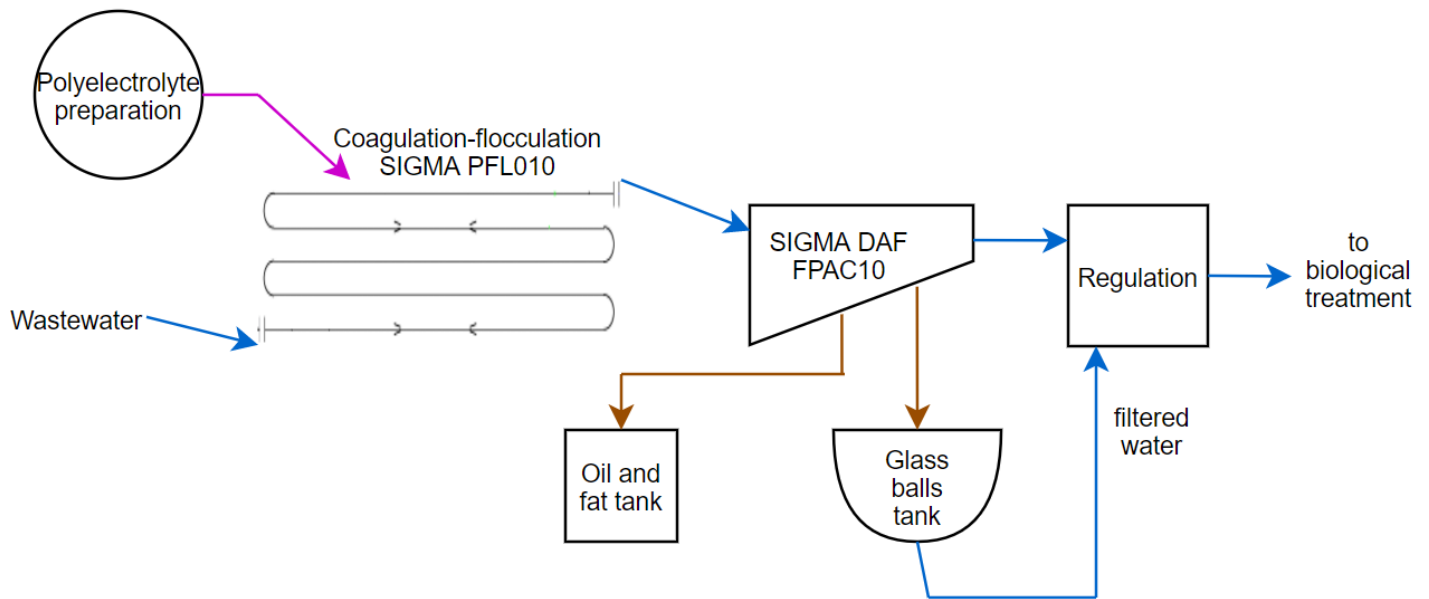
Wastewater Characteristics

Special Features	Oils & Fats
Glass micro-balls content	1.500 mg/L

Treatment Performance

Special Features	Oils & Fats Removal
Total removal of glass micro-balls	90%

Process Diagram:



Background:

The most widely used raw materials in the metalworking industry are steel, stainless steel, iron, and aluminum. The activities of the sector involve the transformation and treatment of metals during which metal shavings are released. In addition, this industry consumes large amounts of lubricating and refrigerant oils in its processes. These oils, diluted with water, carry the metal shavings into the wastewater stream.

Furthermore, this SNA EUROPE plant applies the shot blasting process. Shot blasting is a surface cleaning treatment technique that propels small abrasive material against a surface under high pressure. In this case, tiny glass beads remove metal surface contaminants like paint, rust, foundry residues, material burrs, etc., to create a smooth surface. The micro-glass balls pass into the wastewater and have to be removed.