

HydroFLOW Product Evaluation - Dissolved Air Flotation (DAF)

Packaging Facility in Houston, Texas

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Background

The Customer

The packaging facility's plastic products are made from recycled plastic bags and plastic bottles, which are transformed into certified PCR (post consumer resins) and plastic sheeting. The company prioritizes environmental sustainability and operates on principles of change that drive the value of reusable plastics. Their eco-friendly mindset made the use of the *HydroFLOW* water conditioning devices a perfect water treatment solution.

Dissolved Air Flotation (DAF)

A water treatment process that clarifies wastewater by removing suspended material such as oils and solids. The removal is achieved by releasing air at atmospheric pressure in the bottom of a flotation tank. The released air forms tiny bubbles which adhere to the suspended matter causing it to float to the surface of the water where it may then be removed by a skimming device. Heavy solids sink to the bottom where they are collected as sludge, while the clearer water is discharged from the center of the tank.

Purpose of the Product Evaluation

The 14-week product evaluation came to determine if a *HydroFLOW* i150 water conditioning device, which is powered by Hydropath Technology, can optimize the performance of the DAF process. The *HydroFLOW* i150 device was installed on the 6" wastewater circulating pipe entering the tank.

Key Success Factors

- Improve the recirculating wastewater's murky appearance.
- Reduce the strong foul odor of microbial contaminants.
- Reduce chlorine and polymer dosing.
- Reduce maintenance costs by extending the equipment's cleaning cycle.



Results

- Roughly 50% reduction in polymer and chlorine.
- Foul odor and chlorine-smell reduced dramatically.
- The equipment cleaning cycle, which includes water replacement, was extended from 1 to 6 weeks and allowed significant water savings.
- More efficient total suspended solids (TSS) separation, which led to increased TSS removal. In other words, more sludge was produced resulting in cleaner water.
- The sludge was drier (resembled “cake” material), which made it lighter and less expensive to dispose.

