



Aluminum Anodizing

The facility treats their wastewater using an EQ Tank followed by a Mix tank and clarifier. The solids that settle are dewatered with a plate and frame press. The treatment process uses caustic to raise the pH from 4 to 9 and then a coagulant along with a metal precipitant as well as a flocculent to treat their wastewater. The clarified water is discharged to the local POTW and the sludge is hauled offsite for landfill disposal. The filtrate from the plate and frame press estimated at 600 gallons/day is returned for retreatment to the EQ Tank.

The sample of the wastewater was bench tested and according to the client, was the worst case scenario and at a pH of 1.3. The 1,000 ml sample was pH adjusted with 5.4 grams of caustic to a pH of 9.0. The Floccin 1105 was added at a dosage of 0.75 grams in the 1,000 ml (750 ppm or 6.3 lbs/1,000 gallons) and a good settled floc formed after mixing for 2 minutes. The solids settled in as shown in the photo (below) in 45 seconds.

The settled sludge volume was 25% by volume (refer to the photo attached). It dewatered well in our simulation and generated a sludge weight of 7.2 grams from 1,000 ml of wastewater with a % solids of 30%. So this represents a sludge generation rate of 60lbs/1,000 gallons.

The treatment cost for the caustic is estimated at \$15/1,000 gal (45 lbs./1,000 gallons) and the Floccin 1105 at \$9.45/1,000 gallons.

Metal (total)	Untreated	Treated
Chromium	0.98	0.0018
Copper	2.0	0.050
Nickel	20	3.8
Zinc	4.7	0.054

- Units in ppm or mg/L

