



METAL FINISHING, NEW HAMPSHIRE

THE CHALLENGE

A plating facility on the East Coast generates about 8,000 gallons daily of wastewater from process lines which include zinc plating, anodizing, chromate and electroless, black and bright nickel. Concentration of zinc in wastewater ranges from a few ppm to several hundred ppm.

The facility was experiencing frequent zinc non-compliance. Hydroxide precipitation has often been found ineffective in meeting discharge requirements. Dithiocarbamate, hydrosulfite and polysulfide have all been tried and proven unsuccessful. A new chemistry was needed to consistently meet discharge requirements.

THE SOLUTION

The AQUASIL® treatment makes use of the existing 1800 gallon batch. A special AQUASIL® developed for this application is added directly to the reactor tank where a large flock forms and settles efficiently once mixing has stopped.

Parameter	Discharge Limits (mg/L)	Before (mg/L)	After (mg/L)
Total Zinc	2.61	458	0.73
Total Copper	3.38	-	-
Total Chromium	1.85	18.0	< 0.10
Total Nickel	3.98	7.00	0.49

AQUASIL® treatment has successfully removed more than 99% of zinc and chromium and 93% of nickel. As well, the treatment improved filter press operation. This protocol provides a simple treatment that generated clear effluent and met discharge requirements.

Great Chemistry At Work™