

WASTE TREATMENT OF RECYCLING RINSES THROUGH CHEMISTRY

Amplate, Inc. has recycled their rinse waters since 1990 for cleaners and acids. There are no drains or sewage lines at the facility. Amplate has been a non-disposal facility since January of 1990. Until October of 2001, the rinses have been pH adjusted, run through a clarifier to a filter press, to a holding tank, to an electro coagulation and filtration system, through a large bed of carbon (to remove organics) and back to the rinse tanks. On October 22, 2001, the carbon beds were permanently removed from the recycling rinse water system. On this day, 1/12th of 1 % (one twelfth of one percent) PRO-pHx was added to the rinse waters.

To date the filter press is removing all organics. Amplate will avoid using carbon in the rinse waters in the future because of the added expense of material and labor costs.

While adding PRO-pHx to the rinse waters to remove carbon, Amplate accidentally discovered an important added benefit. The concentration of PRO-pHx was raised to .2% (two tenths of a percent) and the metals started falling out during standard filtration. The electro coagulation system, used to increase the molecule size for easy filtration of most metals, was no longer needed. As with the carbon bed, it became a waste of time, material, energy and equipment to continue running the system.

Recycling rinse waters through chemistry and simple filtration has been an environmentally sound and cost-effective move for Amplate.

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Amplate, Inc. of Charlotte, NC. has been a Non-Disposal Facility since January of 1990. An electroplating company, Amplate provides Zinc, Electrolytic Nickels, Electroless Nickel, Black Oxide, Decorative Chrome and the Passivation of Stainless Steels. These operations are performed on all basic metal substrates except for Aluminum and Zinc Die Castings.

Amplate is a past recipient of *The Governors Award For Excellence In Waste Reduction*, and has been a zero disposal shop since 1995.

Amplate has been using PRO-pHx in their acid baths to restore and extend the life acids since November 2000. Seven plating lines total, are using 12 to 18 month old acids for pickling, activation and strips and the acids are performing like new!

In 2001, Amplate achieved one year with zero acid disposal, a 90 + % reduction in acid replacement and greatly reduced the environmental issues associated with acids and the disposal of acids. Now Amplate's creative experimentation has added the advantages and benefits of recycling their rinse waters with the use of the PRO-pHx reagent chemistry and thereby eliminating the previous costs of materials, time, energy, maintenance and equipment to their accomplishments. *Congratulations, Amplate!*

Environmentally Sustainable Remediation Technologies
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