

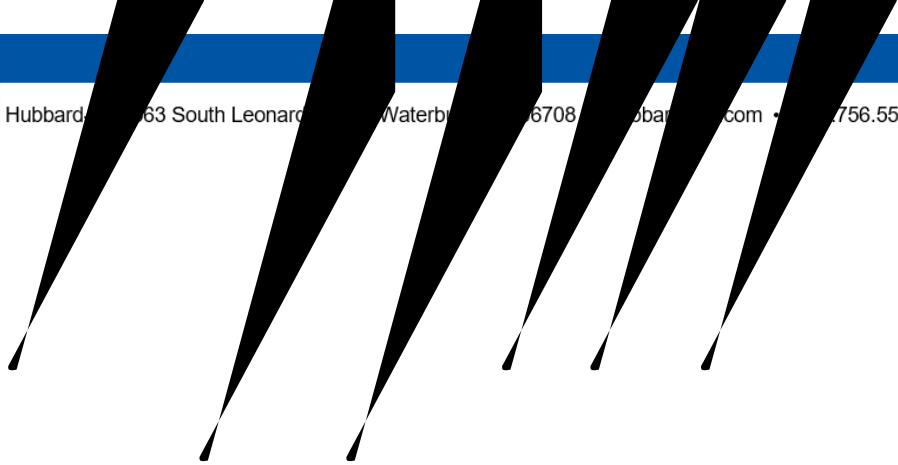


Hubbard-Hall 63 South Leonard Street Waterbury, CT 06708 www.hubbardhall.com • 860.756.5521

White Paper

Title: Importance of Rinsing

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number of rinses in the process:

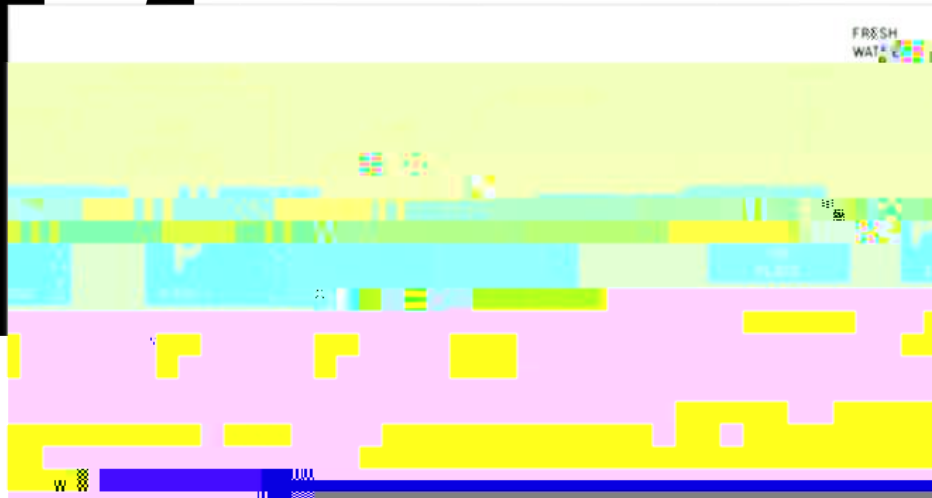
- Proper usage of these rinses
- The potential for improving efficiency by incorporating or upgrading tanks
- Sufficiently efficient water flow and agitation
- The re-use of treated water
- Consideration of easier-to-rinse treatment and finishing processes

1.

This step immediately follows any treatment or conditioning tank, such as surface preparation, plating, or post-finishing treatment. Returning the



- a. Triple counter-flow (or current) rinsing has the effect of two or three standing separate rinse tanks with one water consumption.
- b. Here is how it works: Counter-flow rinsing introduces fresh water into the last rinse tank. This water cascades back through the second rinse tank, leading into the first rinse tank

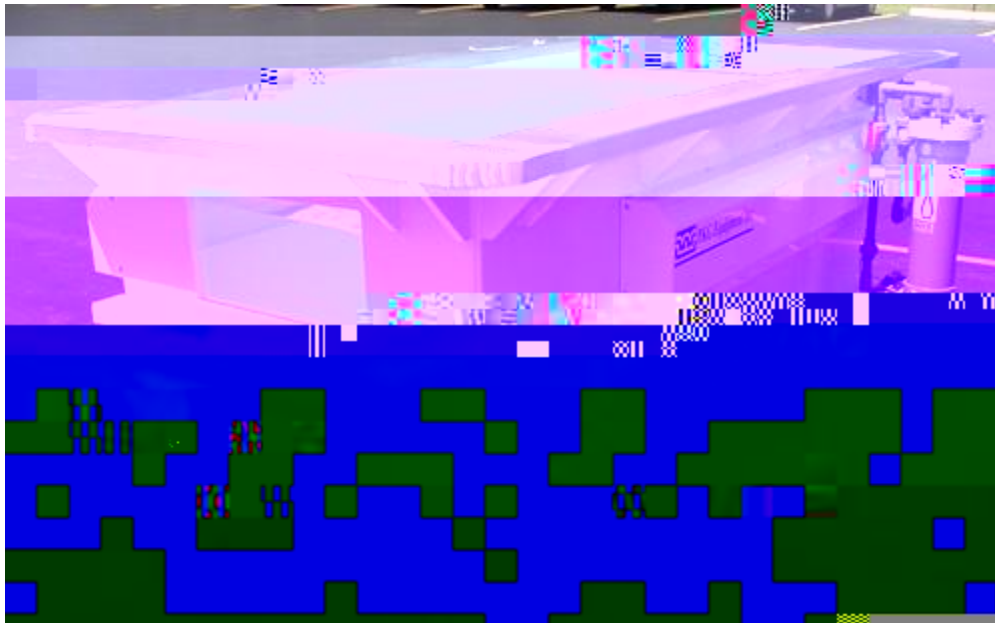


Positive Effect of Utilizing Triple Counter Flow Rinse System

4.

Using all of the tank's rinse water to rinse parts is highly recommended. Movement of water close to parts affords fresher water contact. It is unmatched in dislodging contaminant films and any solid particles in concert with mechanical action. Additionally, agitation of the rinse mitigates the challenge of lower-than-desired water flow. (Take care to calibrate agitation strength - avoid pushing fresh water out the overflow dam before it has been in contact with parts.)

Rinse Tank Fitted with Filter and Circulation Pump





b.







Examples of Two Types of Rinse Tanks



Some things to consider for rinse optimization:

- Are there any skimmers in place? How do they affect the service life of rinse tanks?
- If sprays are used, it is important to optimize location and operation
- Effective use of skimmers and agitation
- Incorporate counter flow with flow restrictors and controls
- How is rinse water monitored for quality?

The challenge is maximizing the application with equipment, tank designs, and line placement in a way that prioritizes quality while conserving water to minimize consumption and discharge. As we've outlined, the best practices represent steps toward attaining that goal. With the myriads of specialized metal finishing specifications (Mil-Spec, ASTM, etc.) coupled with advances in quality control, operating guidelines such as ISO and NADCAP increasingly emphasize optimizing process cycles. Rinsing, as a quality procedure, is integral to meeting and exceeding our expectations in metal finishing. It is well worth the effort; it is a driving force in maximizing water conservation by minimizing water consumption. Our industry demands no less.



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