



the Hard to Clean

Manufacturers who adhere to strict cleaning processes have 40% fewer defects due to poor cleaning. Our experts can show you a choice for every challenge – aqueous or solvent. Learn how reducing rework and rejects and improving your cleaning process can reduce chemical consumption and complexity while having lasting effects on your wastewater treatment.

## Solvent alternatives: Don't let your process lines go down

From supply chain issues and facility shutdowns to increasing regulatory constraints and environmental concerns, learn about the current situation and what that means for your business. Hubbard-Hall experts will discuss the current situation with every type of solvent and future regulations and what that means for your business—plus, our experts will share their position on what this means for manufacturing in the future. Learn:

- What your options are.
- How to maintain chemistry: reclaim solvent and aqueous cleaners.
- How to maintain equipment: check monthly and clean often.
- About replacing your chemistry: non-halogenated solvents, fluorinated solvent blends, modified alcohols, or aqueous cleaning.

## The real cost of parts cleaning

Soils and contaminants are notoriously difficult to remove from drawn and formed metal parts. If not removed properly, they can cause downstream contamination, rework, downtime, and customer rejects. But companies have different attitudes toward cleaning costs, risks, and impact. Learn:

- How attitudes about cleaning relate to quality yield.
- How quality yield relates to what a shop spends on cleaning and its profit margins.
- How the hidden cost of not cleaning properly can far outweigh the initial cleaning cost.
- Tips on building a cleaning process to improve quality, yield, and the bottom line.

## Aqueous cleaning 101

For decades, aqueous cleaners have been widely used. Understand and appreciate the basics of water-based parts cleaning from the best in the business. A high-end overview of aqueous cleaning processes and technology that extend the life of cleaners, including a membrane technology that results in a 95% reclaim efficiency. Learn:

- What applications benefit from aqueous cleaning.
- How you can improve your current process in just a few steps.
- About the environmental, health and safety impact.
- How to reduce your total chemical cost.



# Overcoming the challenges of cleaning aluminum



## ABC's of phosphate free

Phosphate conversion coatings on metals are used to impart corrosion resistance and lubricity and serve as a base layer. Accordingly, phosphates in process wastewater can produce serious problems in the environment. There are options available to remove phosphates safely and stay within EPA Guidelines. Learn:

- How Zirconium coatings are the next generation of pre-paint chemistries.
- The benefits of being phosphate free.
- What is required to improve your process.
- The long-term effects of Zirconium coatings.