Hubbard-Hall

Solving problems others have walked away from.

CASE STUDY

Environmentally friendly aluminum cleaner out performs the competition

An international company that manufactures deep drawn aluminum extrusions used in the aerospace, automotive and military market was mandated to change from a toxic chlorinated solvent to an aqueous degreaser because of health and environmental issues.

Steps in the deep drawn extrusion line

What is a deep drawn extrusion?

Deep drawing is a sheet metal forming process in which a sheet metal blank is drawn or stamped into a die by the mechanical action of a punch. The process is considered "deep" drawing when the depth of the drawn part exceeds its diameter. This is achieved by redrawing the part through a series of dies. (see picture)

This company wanted to test products from several vendors and we recommended our Emerald Acid Clean #1 (EMAC1). The results were clear and consistently favored the EMAC1. As well as outperforming the competitor's chemistry and it was easier to control.

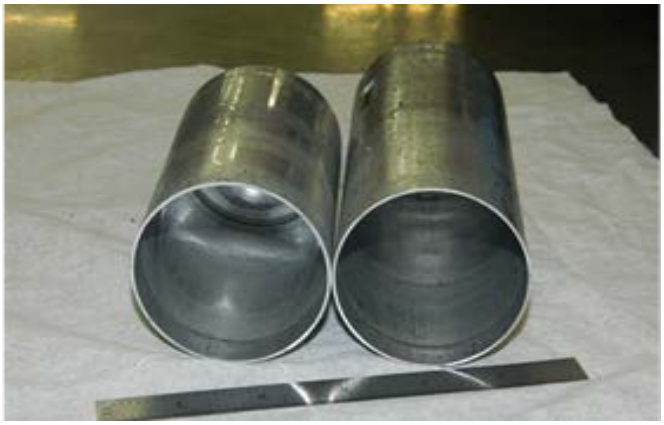
Emerald Acid Clean #1

- Highly concentrated
- High detergency
- DfE approved wetting and solvent system
- Can be used as a burnishing compound
- Removes light rust and scales
- Contains no mineral acids
- Non-fuming
- Safe for employees

Why Emerald Acid Clean #1?

Emerald Acid Clean #1 is a citric acid-based soak, ultrasonic, spray cleaner that may be used for the removal of a variety of soils and oxides from aluminum, stainless steel, steel, cast iron, copper, brass, Monel, and other high nickel alloys.

Emerald Acid Clean #1 contains a high percentage of EPA's designed for the environment (DfE) acceptable surfactants and solubilizers, designed to remove forming lubricants, machining oils, and light rust or scale from these substrates. It is also effective for lime scale removal.



Deep drawn aluminum extrusions before cleaning and brightening.

Aluminum extrusions after wash in Hubbard-Hall Emerald Acid Clean #1 at 9.13% for 6 minutes with a 2-minute factory water rinse and a 5-minute heated dry.

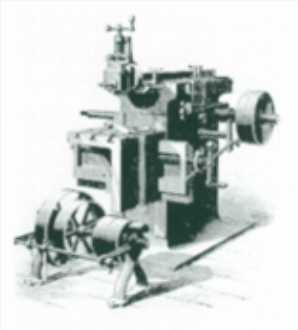
Results

1. The EMAC1 thoroughly cleaned and removed any traces of the stearate lubricants without etching the aluminum.
2. It was easier for contract plating company to anodize because of the superior cleaning of the EMAC1.
3. There was a significant reduction of the cleaning process with a controlled etch rate.
4. Increased productivity without increased equipment and unnecessary steps.

Our experience started with the invention of the eyelet machine

Hubbard-Hall headquarters in Waterbury 1880's

Since 1849 Hubbard-Hall has been providing chemistry and expertise to companies like the Eli J. Manville Company, that is credited with inventing the first deep drawn stamping machine in our home town of Waterbury, CT. The transfer press, also called the eyelet machine, punches and shapes blanks from strips of metal. It is still used for deep drawn production of such items as lipstick cases, battery cases, light bulb screw shells, blasting caps, buttons on jeans, aerosol mounting caps, and countless other products for automotive, aerospace, ordinance, electrical and medical industries



First stamping machine manufactured in Waterbury