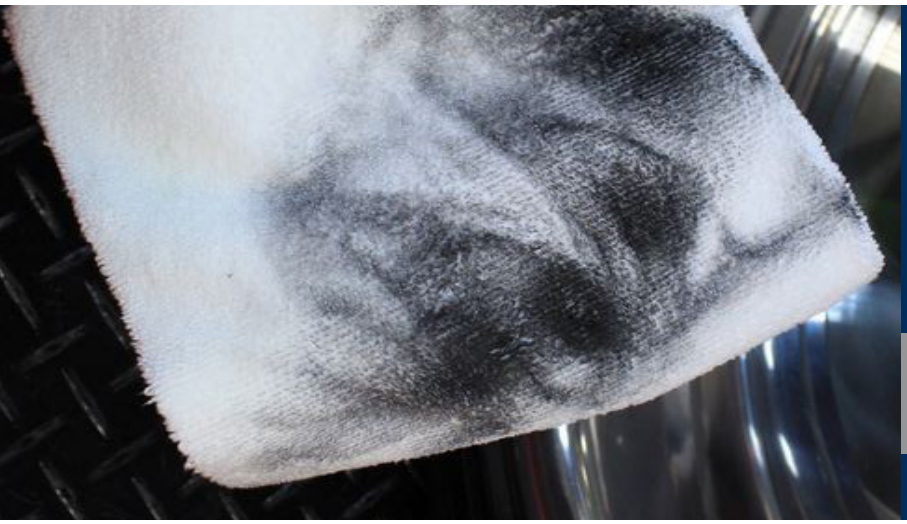

SUCCESS STORY

Stubborn black residue on newly manufactured vessel

▸ **INDUSTRY**
Food & Beverage

▸ **SOLUTION**
Electropolishing

CHALLENGE

A food and beverage company discovered a black residue on the surface of a newly installed vessel. They attempted to remove the residue using both hand wiping and chemical cleaning methods, but to no avail. The residue continued to reappear. Then they hired a company to perform an electrochemically based cleaning process. This solution initially appeared to have succeeded in removing the black residue, but after a CIP and heating cycle the residue returned, suggesting that it was never entirely removed in the first place.

SOLUTION

When the food and beverage company approached Astro Pak with the problem, we assessed that the residue was likely embedded abrasives and metal particles left over from the mechanical polishing processes used during manufacture, a problem that we have successfully resolved for numerous clients.

Our solution was to entirely electropolish the vessel as a test to determine if this process would completely and permanently remove the residue.

Electropolishing works by using a DC current delivered through an electrolyte solution to dissolve the surface of the metal to a limited depth (two to five ten-thousandths of an inch), thus freeing embedded contaminants and removing the work-hardened layer that is formed during mechanical polishing steps. This new surface is not only more representative of the actual base metal alloy (increased purity), but is also smoother and less likely to trap product or other contaminants in the future.

RESULTS

We proposed a time line of events that we held ourselves accountable to, thus avoiding disruption to the client's already hectic production and testing schedule.

The process worked as expected in precisely the length of time promised and with complete documentation and no safety issues. Electropolishing this vessel not only eliminated the stubborn residue, but made the surface much smoother and more easily cleanable so that possible contaminants will be much less likely to adhere in the future.

Our professional and successful execution of this project on has earned us a return trip to complete the processing of more vessels at the same facility.

Like many others, this customer chose us over our competition because we have highly trained personnel who adhere to safety protocols, state of the art equipment, rapid response, superior documentation, and advanced chemistry and process technology to tackle the toughest surface finish issues.

Click here to download our Process Decision Tree to find out which solution is right for you.

Mike Montgomery
Technical Director, Electropolishing Services
(562) 293-3539
mmontgomery@astropak.com

Since 2012 Mike has served as the Technical Director of Electropolishing at Astro Pak Corporation. With over thirty years of mechanical, machining, and metal finishing experience, Mike brings practical knowledge, capability and excellence to vessel restoration projects across the country. Mike develops and implements training programs, including confined space entry, ensuring technical excellence and safety amongst all Astro Pak MP/EP Technicians.