

#1091 - Decorative Electropolishing for a Chrome-like Finish

INDUSTRY:

Automotive - Manufacturer of truck hardware

MFG/METHOD:

Welded and assembled

ALLOY:

6061/5052 aluminum and 303 stainless steel

PROBLEM:

The client needed these lock rods to be bright and shiny, so that they would match the chrome parts on tractor trailers. The client was using mechanical metal polishing methods on the aluminum rods to remove weld discoloration and provide a bright, shiny surface. This metal polishing process was dirty and time consuming, though, and caused employees in the plant to complain about the aluminum dust created as a byproduct.

Before:



After:



SOLUTION:

By electropolishing the part, we were able to remove weld discoloration and improve the finish of the part's entire surface area in a single step. Electropolishing removes a precise amount of surface metal, eliminating discoloration such as that caused by welding and creating a uniform, shiny and chrome-like finish. As a non-mechanical process, even complex surfaces are treated simultaneously and uniformly, speeding up the finishing process. Electropolishing allowed the client to meet their finish goals with reduced labor costs and more consistent results, while also removing the source of the troublesome aluminum dust in the plant.

Note to Engineer: These parts were processed with grease fittings installed, allowing the parts to go to final assembly. Mechanical polishing is more difficult with the fittings installed. If fittings were installed after the finishing process, scuffing or scratching of the surface would cause reworks to rise.