

#1049 Brite Microfinishing

Industry: Food/Beverage - Manufacturers of pharmaceutical equipment and bulk food equipment

Mfg/Method: Fabrication, welding

Alloy: 304 Stainless Steel

Problem: The customer was experiencing product flow and cleaning problems when used with powdered food products. The hopper had been blasted which impinges the metal, making the surface susceptible to product buildup. This part is 72" Tall, 37" Deep and 40" Wide.

Solution: Electropolishing enhanced the blasted surface by removing some of the surface metal. It also improved the microfinish by smoothing the peaks and valleys on a microscopic scale. This operation provides a smoother surface with fewer defects in surface. As an end result, the powder product flows more readily and cleans faster during normal equipment maintenance.

Note to engineer: Normal fabrication processes such as welding and forming create a host of discoloration and surface deformities. Scratches, drawing deformation, tooling marks and normal handling scuffs all lead to the need for a post-fabrication surface leveling process. Blasting is commonly used because of low cost and ease of reaching complex corners. While vapor, sand or other media blasting will serve to make a surface uniform, it leaves a microscopic landscape that is quite rough and subject to product build up problems. Electropolishing is best used as a supplement to blasting operations to provide the most economical and uniform finish on complex, large and expensive weldments.



Before



After