

Team #2: Frito Lay Former Cleaning Process Improvement

Sponsored by: Frito Lay

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Project Description

During the packaging process at Frito Lay, product is channeled through a device called a “former”. This device is a piece of equipment that controls product flow and also makes product specific packages. Due to the high volume of product the plant produces, seasoning and product build-up occurs inside the former, especially for specific flavors. As part of Frito Lay’s commitment to excellent food safety and quality, formers must be removed and thoroughly cleaned after batches with color and allergen changes. Due to space constraints in the packaging department, employees must manually carry formers to be cleaned, resulting in high physical exertion and safety risks.

The primary objective of this project is to design, produce, and deploy a cart for transportation of formers. The cart should minimize employees’ time spent off of the packaging floor as well as minimize physical effort in the former cleaning process. The secondary objective is to provide a recommendation for a washing station and/or permanent dishwasher-style machine to efficiently clean multiple formers simultaneously. Both the cart and washing station will enable employees to clean the formers with higher efficiency and in an ergonomically friendly way.

A House of Quality was created to ensure the product fit the customer’s requirements. Four operational definitions were defined to measure the performance of the new cart. The definitions are ergonomic quality, cleanliness of former, efficiency of system, and employee satisfaction. The design of the new cart was constructed in Solidworks to ensure safety and reliability. Time studies and a computer model were created to evaluate the efficiency of the system and to examine the overall impact in terms of time and safety.

