

# CASE STUDY

## Modular Emulsion Mixing System for Consumer Product

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### JOB OVERVIEW

#### Key Features

- Plant upgrade
- Hastelloy components for process piping, pumps, valves and tanks
- Food grade sanitary requirements
- Thermal design, including heat-jacketed tanks
- Modular process design
- Civil design and construction management

#### Challenges

- Expedited project timeline achieved through collaboration
- Tight physical footprint
- Metallurgy selection
- Long lead times for specialized Hastelloy process equipment

#### Impact

- Completed product launch on schedule
- Controlled costs by utilizing modular design
- Future costs reduced by including process flexibility
- Eliminated the need for a new system or expanded capacity as demand increases

### THE EPIC SOLUTION

EPIC provided a turnkey process plant that consisted of a multi-tank batch manufacturing process. The multi-tank process plant melted solids, then combined the liquid product with a propriety water-based solution.

Each tank was heat jacketed to keep the mixture fluid throughout the process. Once the mixture passes through several processing steps, it travels through heat jacketed piping to the filler. EPIC made alterations to the filler to accommodate the corrosive nature of the new formula.

The modular design/build approach was the only possible solution to ensure an on-time project completion. Site and civil work were underway congruently with the fabrication of the process plant at EPIC's facility. Not only does the modular design/build approach streamline project completion, but it allows the project to be manufactured in a controlled environment.

The limited plant real estate was another aspect of the project where the modular/design approach added value. To integrate the process plant into an existing facility, EPIC's design team had to think creatively when designing the piping and equipment layout. EPIC's team was on site throughout the installation process as a resource for plant staff. EPIC's turnkey approach and modular process solution allowed the client to launch the new formula on time and to meet expected consumer demands.

