Mindful Packaging Revolution

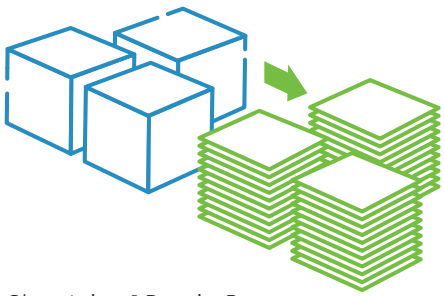
Challenge

In its current form, Soy Sauce was created about 2,200 years ago in ancient China and spread throughout East and Southeast Asia, where it is used in cooking and as a condiment. Today, a staple in East Asian cuisines, soy sauce is the third most popular condiment in the United States, and due to its viscosity, it is the hardest to contain. Traditionally shipped in a semi-rigid container (Cubitainer) that delivers erected in boxes, soy sauce companies were interested in shifting towards a container that saved on transportation costs, eliminated the fluorination treatment for barrier protection, ensured the product arrives at the destination securely and, as a bonus, reduced the foaming of the product during the filling stage.

Solution

Soy sauce companies would have to bring in full truckload quantities of the Cubitainer, inflated and assembled, which equals 3,000 containers. Eager to reduce their transportation costs and maximize their warehouse storage, soy sauce companies needed a package that shipped flat. The Cheertainer® Bag-in-Box exceeded this requirement by delivering 72,000 bags per truckload, and because they ship flat, this reduced the amount of space necessary in the warehouse.

Solved: 3,000 containers vs 72,000 bags



Cheertainer® Bag-in-Box created solutions for efficient storage and logistics.

CUSTOMER SUCCESS STORY

Customer
Soy Sauce Companies

Product
Soy Sauce

Application
Increased efficiency in packaging, transportation, and storage

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CDF™
MINDFUL PACKAGING

The traditional soy sauce package shipped in an erected state because it had to undergo a fluorination treatment before filling. Fluorination creates a barrier between the plastic and the product, preventing the soy sauce smell from permeating the package. Fluorination is an expensive process and could be eliminated with the selection of the correct film combinations. After conducting shelf-life holding studies on a few different film combinations, it was determined that a medium barrier liner would efficiently meet the barrier requirements.

Solved: Bag-in-Box cracking issue

The primary mode of transporting the filled product was by rail. Soy sauce companies expressed concern around flex cracking in the bag, and due to the viscosity of the product, experiencing leaks. CDF packaged a pallet of soy sauce in the standard bag and box and shipped the pallet the regular rail route. The top layer of bag-in-boxes experienced flex cracking. CDF developed a baseline vibration test that mirrored the rail shipment by palletizing the soy sauce in the standard bag and box package and putting the pallet through vibration table trials. Our engineers observed the vibration testing and were able to identify movement in the bag that was causing cracking. By making small changes in the structure of the bag and adjusting the box's orientation, we eliminated the flex cracking issue.

Solved: Bag-in-Box foaming issue

Soy sauce companies had a slow filling process. They liked our filling equipment and partnership with the manufacturer, Flexifill, and post-installation service and support. By converting them to the Flexifill machine and the Cheertainer bag-in-box solution, they could increase throughput and eliminate product foaming.

Results

By working closely with the CDF team, soy sauce companies eliminated the added cost of the fluorination stage and shipped the product flat, translating to lesser transportation costs and logistical concerns, ensuring the product arrived securely to their end-user while improving the filling speeds and throughput.

"BY CONVERTING THEM TO THE FLEXIFILL MACHINE AND THE CHEERTAINER BAG-IN-BOX SOLUTION, THEY COULD INCREASE THROUGHPUT AND ELIMINATE PRODUCT FOAMING.

Solved: Flexifill machine improved the filling speeds and production efficiency

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MINDFUL PACKAGING