FLUKE®

Safety in the box

Technology at Work

In the food industry, quality and safety are an essential part of the job. For Jack in the Box® restaurants, a pioneer in the quick-serve industry, product quality and safe food-handling practices are a passion.

Founded in 1951, Jack in the Box is among the nation's leading fast-food hamburger chains, operating or franchising more than 1800 restaurants in 17 states and serving more than a half-billion guests a year. Jack in the Box pioneered a number of firsts in the quick-serve industry. Not only did the company become the first major fast-food chain to offer a drive-thru, but it was also the first to introduce items that are now staples on most fast-food menus, like a breakfast sandwich.

Jack in the Box offers more permanent menu items than most other chains and a broader selection of distinctive, innovative products targeted at the adult fast-food consumer, including hamburgers, specialty sandwiches, Mexican foods, finger foods, other side items and real ice cream shakes.

Critical control points

In 1993, Jack in the Box initiated a Hazard Analysis Critical Control Points (HACCP) system for managing food quality and safety. It was the first restaurant to establish a HACCP program and Jack in the Box has been recognized as having the most comprehensive system in the industry today.

HACCP is a national food-safety program developed by the Food and Drug Administration nearly 30 years ago for the NASA space program. Its National Advisory Committee on Microbiological Criteria for Foods is charged with setting the procedures and processes for the program, which is based on seven principles:

- Analyze hazards. Identify potential hazards associated with a food and the measures to control them.
- Identify critical control points. These are points in a food's production – from its raw state through processing and shipping to consumption by the consumer – at which potential hazards can be controlled or eliminated.
- Establish preventive measures with critical limits for each control point. For a cooked food this might include setting the minimum cooking temperature and time required to ensure the elimination of any harmful microbes.
- Establish procedures to monitor the critical control points. Such procedures might include determining how and by whom cooking time and temperature should be monitored.
- Establish corrective actions to be taken when monitoring shows that a critical limit has not been met, such as reprocessing or disposing of food if the minimum cooking temperature is not met.

- Establish procedures to verify that the system is working properly by testing time and temperature recording devices to verify that a cooking unit is working properly.
- Establish effective record-keeping to document the HACCP system. This includes records of hazards and their control methods, the monitoring of safety requirements and action taken to correct potential problems.

Farm-to-fork

The HACCP system at Jack in the Box encompasses "farm-to-fork" procedures for safe food handling and preparation in every restaurant.

"We install safety hurdles from the point of manufacture through the distribution channel all the way up to preparation," said Darren Blass, director of quality assurance for Jack in the Box. "The intent of those hurdles is to minimize, reduce and eliminate risks and hazards as the products go through their normal process flow."

Since its food products are supplied by outside vendors, the program begins with its suppliers, who must maintain a HACCP system within their facility, including proper cleanliness and food-safety procedures. In addition to conducting regular visual inspections, confirming physical measurements, and performing chemical analyses, a microbiological sampling program is used to ensure that the suppliers' food-safety systems are working.

"Each part of our supply chain has its own HACCP system that overlaps or links with the system prior to and following it," said Blass.

Every restaurant receives a temperature tool kit with a Fluke 51 and four probes.

Fluke in the box

In every restaurant, HACCP temperature measurements are taken several times a day to adhere to the HACCP standards – and the Fluke 51 Digital Thermometer is the tool of choice for all temperature measurements. In fact, every restaurant gets a box with a Fluke 51, instructions and four probes: immersion, needle, surface, and air. Temperature checks are taken several times a day.

Daily equipment evaluation

"Every day at the beginning of the first shift, we verify that our equipment is working properly," said Blass. "We check that our grills, fryers, freezers and refrigerators are functioning at the right temperature." This includes taking air temperatures in refrigeration units, immersion temperature readings in the fryers and surface temperature on the grills. They also calibrate the temperature reporting devices of the units every day.

The next step is to take product temperatures. "We'll cook product and verify that the finished temperature is correct and that the protocol we use will deliver a good, safe product," added Blass.

If they find units that aren't working properly, they perform the necessary corrective action and test again. "We won't begin the day until we've verified that all our equipment is working properly." If any corrective actions are necessary, the equipment is retested throughout the day to confirm they are continuing to work properly.

Per-shift monitoring

At the beginning of each shift and throughout the shift, managers check to ensure that all workstations meet cleanliness standards and that established safety and quality procedures are being followed. These checks verify such critical items as correct equipment temperatures, proper use of tools and procedures to prevent cross-contamination, proper product temperatures and continual practice of employee hygiene requirements.

Fluke 51s are used each shift to verify that food temperatures are being maintained to specifications. The data from all the tests – which include visual observations – are recorded and stored. Every restaurant is audited on a periodic basis to ensure their recordkeeping is accurate, complete and readily accessible.

Test kitchens

The test kitchens at Jack in the Box are used for both R & D and quality control. "We're constantly evaluating new foods as well as current products," said Mike Webb, project manager in operational services. "One of the steps the quality assurance department takes is to randomly take products from distribution into the test kitchen and perform multiple checks on them. Products are evaluated for weight, consistency – every quality measure, including temperature held. So the Fluke 51s are used all day long."

As new food products are being developed and evaluated, temperature is one of the measurements taken and recorded constantly through the process. Detailed temperature data is logged to provide quality control on food handling and preparation should the product be introduced at the restaurants.

The test kitchens use Fluke's Hydra Series II portable data acquisition systems to automatically log temperature data in addition to the 51 digital thermometers. "The kitchens have four Hydras to monitor equipment temperature while cooking products," said Webb. "This allows us to record what temperatures they'll be getting out of the products. If there's an anomaly, for example making the product too thick, they can go back and see if it was a grill issue or a supplier issue."

FLUKE®

Versatility and reliability

Fluke 51 thermometers have been an integral part of the quality assurance program at Jack in the Box since 1993. “We needed a good piece of equipment that was easy to use, very easy to calibrate and stays calibrated, and durable,” said Blass. “The Fluke 51 consistently gives us accurate results. Plus, it has given us the flexibility to do the things we need to do. We need a probe to insert into pieces of meat or pieces of bread. We need to immerse a probe into shortening or liquid products. We need to take surface temperatures. We need to take air temperatures. And the 51 allows us to do that and gives us good results continuously.”

Jack in the Box has also incorporated product support for the Fluke 51 into their corporate store support system. “If they drop a thermometer or break a probe, the restaurant calls the 800 support number and gets a replacement sent overnight,” said Webb. “Or they might even be able to run down to another local Jack in the Box that has a spare part so they can continue their required HACCP monitoring.”

ServeSafe training

The final ingredient in the product-safety program at Jack in the Box is training through ServeSafe, a nationally recognized food-safety training and certification program administered in partnership with the National Restaurant Association. All restaurant managers and grill employees receive special grill certification training and are re-certified annually.

“We require ServeSafe not only of our restaurant personnel but anybody in our company who, on a regular basis, influences the restaurant experience,” said Blass. “If you’re going to make food-safety decisions you must have a knowledge of food safety.”

At Jack in the Box, passion for food quality is driven by one overriding philosophy: giving its guests the best experience possible. By setting the high standards for food quality and safety throughout the supply chain and by putting consistent processes in place, it ensures the quality of the food and allows restaurant personnel to focus on delivering the best customer service possible.

Fluke. *Keeping your world up and running.*

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