



Impact of Kitchen Ventilation on HACCP Food Safety

April 23rd, 2010



AGENDA

- HACCP Introduction and Background

- Food Safety impact in the Kitchen
 - 4 Key Food Safety Issues
 - Equipment
 - Airflow
 - Ventilation Design
 - Temperature

- Summary



WHAT IS HACCP

- HACCP, or Hazard Analysis Critical Control Point system, is a common-sense method of managing risk, used right around the world by food organisations to prepare safe food.
- By strictly monitoring and controlling critical step of the process, there is less chance for hazards to occur.



WHY IS HACCP IMPORTANT

- HACCP is important because it prioritizes and controls potential hazards in food production. By controlling major food risks, such as microbiological, chemical and physical contaminants, the industry can better assure consumers that its products are as safe as good science and technology allows. By reducing food borne hazards, public health protection is strengthened.



HACCP for Non-Food

- Equipment, materials and services used in the handling and processing have a significant impact on food safety
- Those items that are not considered to be food are not produced under a HACCP programme.
- These items **MUST NOT** compromise food safety and must complement a HACCP programme of the food manufacturer using those items



Impact of Equipment on HACCP

- Excellent design and full consideration of hygiene sanitation issues will help reduce physical, chemical and microbiological contamination.
- The latest BRC Version 5 states that “all equipment in direct contact with food needs to have a certificate of conformity (COC) or other evidence to indicate this suitability of use”
 - such as HACCP International Certification



What Does HACCP Certified mean for non-food?

- Well designed with 'food-safe' characteristics
- Non-toxic / non-reactive / non absorbent
- Easy to clean and easy to handle
- Appropriate for use
- Likely to reduce the risk of any form of contamination
- Designed for a low consequence of error in use
- Contributing to food safety in their use



Food Safety impact in the Kitchen

- We don't always recognize kitchen equipment design as being potential dangerous in terms of food safety
- Bacteria hiding in raw ingredients, utensils, sponges, counter tops, and cutting board
- Ventilation is critical in maintaining a high level of sanitation in a food kitchen environment



Key Food Safety Issues - Exhaust

- Sanitary Design and Cleaning
 - Design – no loose fittings
 - Materials selection
 - Manufacturing finish
 - Shatter proof lighting and protective covering
 - Easy to clean design (filters)
 - Validated CIP performance where installed
 - Drainage trap
 - Detergents /Sanitizers



Key Food Safety Issues - Exhaust

- Getting the airflow correct
 - Lack of proper ventilation presents problems
 - High temperatures and humidity
 - Lead to bacteria growth and proliferation
 - Cooking steam not removed can lead to contamination
 - Condensates on cold surfaces / drip onto food or equipment
 - Condensate can affect wall structure i.e. paint flake



Key Food Safety Issues- Exhaust

➤ Ventilation Design

- Canopies must be ideally placed above cooking area
- Make up air
 - Impacts hood performance and must be well designed and positioned
 - Capturing the head plume and replacing the air is a fine balancing act
- Source of make up air (natural/mechanical)
 - Must be clean source and properly filtered

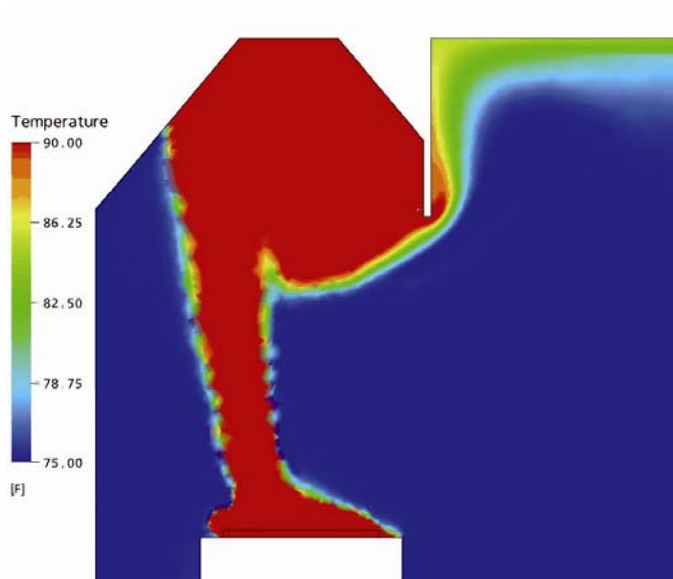


Key Food Safety Issues- Exhaust

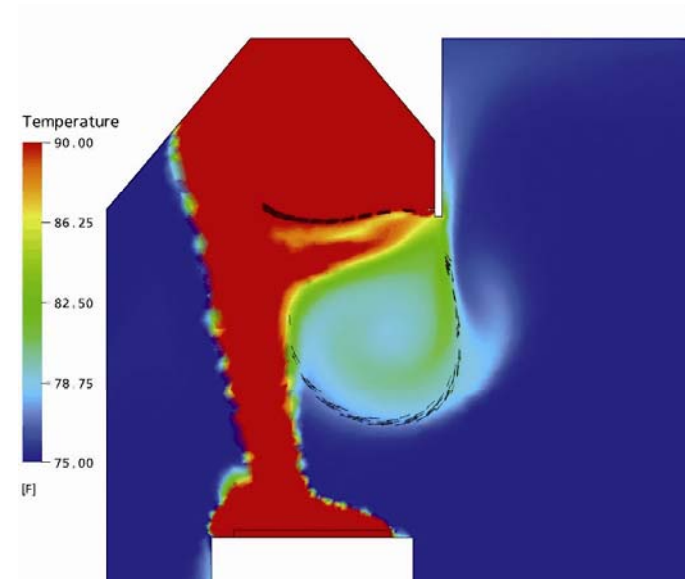
- Temperature control in the Kitchen
 - The warmer the environment the faster bacteria grow
 - Ambient temperature should be below 25C
 - A hot kitchen can affect refrigeration not being able to keep foods at below 5C
- Extraction of waste air and intake of clean air should form stable airflow pattern

Halton's Capture Jet Technology

X Heat spillage beyond hood physical extraction design



✓ With Halton's Capture Jet on – capture and containment





Summary

- Well designed kitchen ventilation is crucial to achieving control of general hygiene and food safety
- Responsible food manufacturers of any kitchen equipment should consider food safety aspects in their product offering
- HACCP International has assessed Halton ventilated canopies and found it meets food safety requirements