

Food Safety Risks: Equipment Design in the Baking Industry

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Agenda

- Global Food Safety Initiative
- Regulatory Requirements
- Food Safety Issues
- ANSI Z50.2 Standard
- Benefits of Hygienic Equipment Design



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Global Food Safety Initiative

- Continuous improvement of food safety systems
- Industry led initiative launched in 2000
- 2008 – Wal-Mart



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Global Food Safety Initiative

- SQF
 - “Equipment and utensils shall be designed, constructed, installed, operated and maintained so as not to pose a contamination threat to products.”
 - “Benches, tables, conveyors, mixers, mincers, graders and other mechanical processing equipment shall be hygienically designed and located for appropriate cleaning. Equipment surfaces shall be smooth, impervious and free from cracks or crevices.”



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Global Food Safety Initiative

- BRC
 - “All equipment shall be properly specified before purchase, constructed of appropriate materials, be of a suitable design to ensure it can be effectively cleaned, and shall be tested and commissioned prior to use”



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Global Food Safety Initiative

- FSSC 22000
 - Equipment suitability, cleaning and maintenance
 - Hygienic design
 - Product contact surfaces
 - Cleaning



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Regulatory Requirements

- Food Safety Modernization Act (FSMA)
 - Focus on prevention of food safety issues
 - Manufacturer's responsibility to produce safe product
 - Emphasis on sanitary design and construction
 - Manufacturer's responsibility to document design, maintenance and cleaning to prevent product adulteration
 - Ability of FDA to mandate a recall or cease plant operations



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Regulatory Requirements

- Contaminated ingredients?
 - How quickly and effectively can you disassemble and reassemble your equipment?
- Post-process contamination
 - What comes after the oven?
 - Is the oven the ultimate kill step?



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Regulatory Requirements

- Responsibility falls to management
 - PCA
 - Jensen Farms
 - FDA use of the Park Doctrine



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Regulatory Requirements

- FDA Form 483
 - Issued to firm management if inspector determines any food, drug, device or cosmetic has been adulterated or is being prepared, packed, or held under conditions whereby it may become adulterated or rendered injurious to health



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Regulatory Requirements

- The number of warning letters issued after a 483 has been issued increased 75% between 2010 and 2012.



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Regulatory Requirements

- Top three citations – Bakeries & Snack Food Facilities
 - Insanitary building conditions
 - Lack of pest control
 - **Equipment sanitation problems**



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Regulatory Requirements

- Positioning of equipment for cleanability
- Food contact surfaces
 - Non-toxic
 - Precludes contaminants
 - Materials and workmanship
- Harborage areas



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Food Safety Issues

- Top three reasons for bakery recalls in 2013 (as of FDA Enforcement Reports through Dec 31, 2013)
 - Allergens (50%)
 - Foreign materials (40%)
 - Mislabeling (8%)



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Food Safety Issues

- Snacks and bakery recalls are among the most prevalent
 - 12-20% of food recalls involve bakery or snack items
- Allergens are the leading cause of bakery recalls
- Foreign material
 - Equipment failure
- Microbiological
 - In-process and post-processing contamination
 - Pies, cakes, dough



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Food Safety Issues

- Microbiological contaminants
 - Listeria
 - Salmonella



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Food Safety Issues

- Peanut butter 2009
 - Salmonella
 - Majority of recalls were bakery and snack items
- Raw cookie dough 2009
 - E. coli
- 11 multi-state outbreaks for 2013
 - 5 were Salmonella



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Food Safety Issues

- Foreign materials
 - Metal (80% of foreign material recalls)
 - Plastic



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ANSI Z50.2

- Background
- Goals
- Why?



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ANSI Z50.2

- BISSC (Baking Industry Sanitation Standards Committee) formed in 1949
 - Originally known as the BISSC Standards
 - Over time, lost recognition and relevance
 - ASB took over the BISSC standard
 - Converted it to an ANSI standard in 2003
 - BISSC remains as certification body
 - ASB is currently the Secretariat



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ANSI Z50.2

- 2011-2013
 - 77 individuals involved
 - 11 working groups
 - 100+ conference calls
 - 300+ line changes
 - 2 updates released
 - 2013 version released prior to IBIE 2013



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ANSI Z50.2

- ASB website (www.asbe.org)
 - Standard
 - Working group members
 - Current work in process
 - Comment submission section



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ANSI Z50.2

- Other equipment standards
 - 3-A
 - NSF
 - EHEDG
- Equipment design guidelines
 - GMA
 - AMI



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ANSI Z50.2

- Unlike other standards, the Z50.2 focuses specifically on types of food processing equipment used in baking and snack industry
- Gap Analysis with GMA guidelines demonstrated compatibility



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ANSI Z50.2

- The ANSI Z50.2 standard has **value** to those that purchase and use equipment meeting this standard as it lends itself to several benefits



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Benefits of Hygienic Design

- Meets GFSI and other requirements
- Proper design and installation of food processing equipment minimizes food safety risk
 - Allergens, foreign materials, microbiological



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Benefits of Hygienic Design

- Prevents product contamination
 - Consumer expectations
 - Company's brand image
 - Image of baking and snack industries



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Benefits of Hygienic Design

- Hygienically designed bakery equipment is more cost effective to operate, clean and maintain
 - Reduced labor, shortened disassembly and reassembly time, reduction in chemical use, shortened cleaning time, shortened maintenance time and reduced downtime
 - Positive impact upon bottom line in a competitive market



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Summary

- Customer Requirements
- GFSI Requirements
- FSMA
- Cost of Food Crises
- Return on Investment



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Questions?



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