

EHEDG Congress 2016 – Where Food Safety, Environmental Efficiency and Hygienic Design goes hand-in-hand.

01 Improving Food Safety Auditing of Food Companies – Peter Overbosch

Focus on development of GFSI standards and their focus on hygienic design. It is believed that hygienic design requirements will be more described within the next generation of these standards, e.g. through mandatory usage of checklists such as the ones from EHEDG. Matilda Friend from Mondelez Int. confirmed that both EHEDG and 3A are being looked into from GFSI point of view.

Slide no.5 in presentation shows basic structure of Quality manual for resp. parent company and manufacturing site.

02 Requirements on Hygienic Design from Food Manufacturer to Equipment Supplier – Laurence Blayo, Nestle

Poor design can lead to death was the overall message.

“It is the food manufactures responsibility to know the profile and risks of the products they manufacture and monitor all food safety parameters including equipment design. Furthermore it is the food manufactures responsibility to buy properly designed, easily cleaned equipment and to maintain it in sanitary conditions though good planned cleaning and maintenance.”

Very comprehensive checklist for new projects as part of the “Technical Specification Package” – see photos from presentation. The specification package and usage of this is still under implementation so no guarantee that a supplier is meet with identical requirements all over the world.

03 Hygienic Design Considerations for Construction of Food Processing Equipment – Andy Timperley

Hygienic design with consumer in mind – focus on Surface characterization and surface treatment.

Bead blasting (glas blæsning) can hide a multiples of sins beneath/behind the surface Material must be right in order to develop the right design, the right unit, the right line and the right site.

04 Influence of Surface Topography in Cleanability – Jon Kold

Add on to previous presentation on surface topography and examples of various testes.

05 Surface treatment as key factor for stainless steel with food – Benedikt Henkel.

Add on to previous presentations – with focus on chemical and electro chemical surface treatment. Focus on *“demand of application”, “functional behaviour” and “mechanical construction”*.

06 Aspects of Hygienic Seal Design with Elastomers – Anders Christensen, AVK

Selection criteria and failure modes incl. compression set (must be <15% or leakage), Chemical degradation and erosion, Swelling, Gap extrusion, Ozonolysis and oxidation (maybe a risk with enzyme cleaning?), Heat ageing, Overcompression, High friction, Explosive decompression, - how this affects cleanability , leakage and cross contamination and risk of gasket debris in product.

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07 Challenges n Hygienic Design in the Meat Industry – see presentation for info.

08 Hygienic design of Open (and closed) equipment in the Fish Industry.

Focus on “Conveyors , Washing tanks / Trimming tables / Gutting machines / Vacuum systems / Filleting, trimming, skinning and pin-boning machines / Refrigerated water systems / Ice-machines / Floors and drains.

Discussing Processing conditions and product properties, hygienic requirements for equipment and for processing lines.

09 Hygienic Design in the Fresh Produce Industry – see presentation for info.

10 Validation, a Challenge in Cleaning Protocols - Hein Timmerman, Sealed Air

Not mandatory in regulation but it is according to food safety standard. A good opportunity to set baseline requirements for safe production, and to identify critical areas and optimize the cleaning program.

When to do cleaning validation and how to do the validation and verification.

Important to remember that “*Traditional CIP parameters (flow, temperature, conductivity) do not provide qualitative data on food safety*”

Introduction to New hygienic broad spectrum photometer (p. 19 in presentation)

11 Development of a test method to assess the cleanability of exposed surfaces – Marc Mauermann, Fraunhofer

Development of EHEDG test method (Henrik Ebbe Falesen from DTU is also involved).

12 Cleaning of Factories Handling Dry Foods / Steven Multer, Hecht Technologie

$aw < 0.85$ and $pH < 4.5$ no pathogen growth, $aw < 0.6$ no microbiological growth.

In a dry environment it is difficult to clean bacteria once they are in as they become much more heat resistant and can survive for long periods of time.

Dry good equipment not designed for use n wet conditions – this includes floors and potential condensate.

In dry cleaning water is seen as a contaminant. Be careful concerning allergens – very difficult to control with dry cleaning. Review of procedure and tools for dry cleaning, be careful with dry ice blasting at condensate is likely to develop. When using pigging remember air quality for the carrier.

13 Hygienically Designed Tank Cleaning Leading to Lower Total Costs – Alfa Laval A/S

Time, Flow and Water usage. Different CIP nozzels for different product applications.

14 A Food Manufactures Perspective – Cost of Poor Hygienic Design, Mondelez

Factors leading to contamination of foods and loss due to contamination (direct and indirect).

The importance of balance between the product formula stability vs GMP, Sanitary design, Zoning and Cleaning. Examples of incidents, investigation and impact.

On a question on why a supplier (Chr H) still had to provide analyse certificates or send samples for approval when they had all the right certifications it was said that the certification means that you can be trusted and therefore be considered for approval as a supplier, the additional testing / sampling is to verify your performance.

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15 Sustainability and Hygienic Design, Rafael Soro, Centro Technologico

Presentation on Environmental impact of hygiene-related activities. Hygienic design should be included in “Best Available Technique” as it needs less water and detergent for sufficient cleaning.

Demonstration of hygienic eco-design of food processing equipment as Best Available

16 Integration of Equipment and Other Typical Issues in Hygienic Buildings, John Holah, Holchem Laboratories.

Understanding the process and product, understanding the place, determine how the equipment will be operated and how to clean and maintain it (also part of Machine directive).

Focus on transport air and Installations / services such as Air, Compressed air, Steam and Electricity – incl. risk of condensate in compressed air system.

Dismantling of equipment and special cleaning. Soil type and cleaning requirements.

17 EHEDG Certification as a Successful Tool – Jürgen Hofmann, Hygienic Design Weihnstephan

Information about the certification process. EHEDG certificates for respectively open and closed equipment, liquid and dry production.

Test methods are updated therefore the new certificate will only be valid for 5 years before a review is required – we are currently in a transition period therefore old approvals are also part of the list of approved equipment.

18 What is new in the EHEDG Training Tools Development, Patrick Wouters, Cargill.

EHEDG guidelines can be used for: Component, Equipment, Process, New Building or Renovation.

Currently the training has been Face to Face training focused on respectively “EHEDG Basic Hygienic Design Training Course” and “EHEDG Advanced Hygienic Training Course”. More training methods and focus areas are under development incl. on-line training and webinars.

Also a “*Hygienic Design Capability Building – Through Checklist*” is currently under review. The aim of the checklist is to ensure all relevant matters are identified in the following activities: Hygienic Design requirements for purchase ordering, Review (FAT/SAT test), Certificates, Root cause analyses, Internal audits in hygienic design and training in Hygienic Design