Who are Vikan?

- Danish based manufacturer of manual cleaning equipment for the food industry

- Established: 1898

- Majority owned by The Vissing Foundation, charitable trust
  - Majority of profits go back into sustaining the business and supporting medical and technical research

- Deb Smith, Global Hygiene Specialist
Background

European Hygienic Engineering Design Group (EHEDG)

‘..promotion of safe food by improving hygienic engineering and design in all aspects of food manufacture.’

guidance

training

certification

Focus to date on food production equipment
Benefits

...of using equipment of good hygienic design
- quicker and easier to clean
- minimises the risk of product cross-contamination (microbes, allergens, foreign bodies, food residues)
- maximises food safety and quality
- reduced risk of expensive product rejection or recall
- minimises food waste
- cost benefits
A few things you might not know about cleaning equipment

Cleaning equipment has been shown to be a major source and vector of cross-contamination

47% of cleaning equipment tested was positive for Listeria (Holah, pers. comm.)

The importance of hygienic design of cleaning equipment has recently been recognised by BRC

Issue 7 of their Global Standard for Food Safety newly states that ‘cleaning equipment should be hygienically designed’ - Section 4.11.6

There is little guidance on hygienically designed cleaning equipment and very few cleaning equipment manufacturers produce hygienically designed tools.
Brushware investigation

- Drilled and stapled
- Resin set
- Resin set & dilled and stapled
- Fused filament
Assessment Methods
Hygienic design – drilled & stapled products

Courtesy of Campden BRI
Assessment method
‘Contamination’ as seen under UV light
Decontamination procedure
Contamination remaining
Hygienic design – resin products
Contamination remaining
Hygienic design – fused bristle products
Poor surface finish
‘Contamination’ remaining after decontamination
Hygienic design – resin set drilled & stapled products

Courtesy of Campden BRI
Hygienic design – resin set drilled & stapled products

Channel, potential contamination trap
Trapped contamination, after dishwashing
Conclusion

All the brushware options investigated have hygienic design issues
Improved Hygienic Design

Application of EHEDG *hygienic design principles to future cleaning tool development:

- Absence of crevices and contamination traps
- Smooth surface finish
- Easy to clean (and dry)
- Made of food safe materials
- Well constructed

Ultra Safe Technology Brushware

- Fully moulded construction
- No drilled holes
- No sharp internal angles
- Smooth surface finish (<0.8 $R_a$)
- *Made entirely of food contact approved materials (EU & FDA)
- Easier to clean and dry
- Reduced risk of foreign body contamination (bristles)
Bristle fixation
The future…?

Incorporation of hygienic design principles into other food industry cleaning equipment designs

Guidance, standards, certification, and training on food industry cleaning equipment

EHEDG sub-group?

One day all brushes will be made this way!
Further information about hygienically designed cleaning tools

Vikan exhibition stand
White Paper
Journal of Hygienic Engineering and Design (JHED) 2015
EHEDG Handbook of Hygiene Control in the Food Industry, 2nd ed (spring 2016)

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