

# THE HYGIENIC DESIGN OF FOOD INDUSTRY BRUSHWARE - THE GOOD, THE BAD AND THE UGLY

Debra Smith<sup>1\*</sup>

<sup>1</sup>Vikan (UK) Ltd., 1-3 Avro Gate, Broadmoor Road, South Marston Park, Swindon, Wiltshire, SN3 4AG, United Kingdom

\*e-mail: dsmith@vikan.com

## Abstract

Thanks in no small part to the work of the European Hygienic Engineering Design Group (EHEDG) many food manufacturers appreciate the benefits of using hygienically designed production equipment as it is quicker and easier to clean, and minimizes the risk of product cross-contamination by microbes, allergens, foreign bodies etc. This in turns maximizes food safety and quality, reduces the risk of expensive product rejection or recall, and minimizes food waste. However, when it comes to the equipment used to clean food production equipment, very few cleaning tools are developed with good hygienic design in mind. Consequently, their use can jeopardize all of the above. The importance of using cleaning equipment of good hygienic design has recently been recognized by the British Retail Consortium (BRC) in issue 7 of their Global Standard for Food Safety, which newly states under Section 4.11.6 that 'Cleaning equipment shall be: hygienically designed and fit for purpose'.

Vikan manufacture brushware for the food industry. They investigated the hygienic design of different types of food industry cleaning brushware currently available and used this information to develop a new brushware option that has improved hygienic design. Drilled and stapled, resin set, and fused filament food industry brushware were investigated, with regard to hygienic design, using microscopy and UV sensitive lotion (as a contaminant). These types of brushware were also assessed against EHEDG and European Brushware Federation (FEIBP) hygienic design criteria.

All existing brushware had hygienic design issues, as indicated by the presence of residual 'contamination' and crevices and various levels of non-conformance with the EHEDG and FEIBP hygienic design criteria. By contrast the improved hygienic design of the newly developed brushware option minimizes the presence of crevices and had greater compliance with EHEDG and FEIBP hygienic design criteria.

These investigations indicate that much of the cleaning brushware currently used in food manufacturing environments, while compliant with key food safety and quality standards, is generally of poor hygienic design. Given the constant drive to improve food safety and quality, the new revisions to the BCR7, there is a need for food manufacturers to minimize the risk of product contamination through all possible means, including the use of hygienically design cleaning equipment.

**Key words:** *Hygienic design, EHEDG, BRC, FEIBP, Manual cleaning equipment, Contamination, Food safety and Quality, Brushware.*