

Protecting food from contamination: how safe are you?

Recent media coverage has highlighted the damage that non-conformance, or gaps in a quality control system, can have to a company's reputation.

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Hair contamination is known to be one of the main causes of consumer complaints. Today, it is easy for consumers to post negative images and comments on social media, which can have a disastrous effect on a brand.

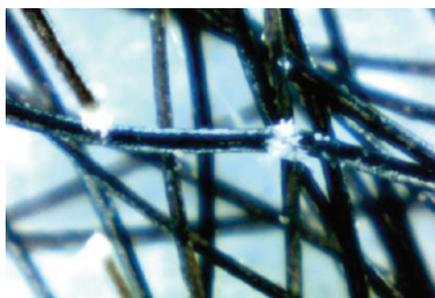
Bad press can seriously and quickly affect customer relationships and this could end in disaster. So, in our pressurised schedules, should we take some time out to eliminate the risk in a controlled, pro-active way before a major incident?

The cause

Hair contamination is caused by natural shedding which is around 40-130 hair shafts per day (figures courtesy of Professor Barry Stevens FTTS, President of the Trichological Society, 2014-16). A less known fact is that modern hair care practices significantly increase the amount of hair that is loose on our heads.

According to Professor Stevens the use of hair driers, curling tongs, straighteners,

Trichorrhesis Nodosa photo-micrograph (x 50). The high-spots indicate the points of eventual severance (B. J. Stevens).



colourants, perming and bleaching can cause hair shafts to blister, leading to severance along the hair shaft creating shorter, loose hairs. This occurs in all hair types but is more noticeable in longer hair and is commonly known as 'split ends'.

What is the risk?

According to Professor Stevens, hair cannot be eliminated as disease carriers. Furthermore, hand contact with the scalp during food production is likely to act as a disease carrier.

Genus *Staphylococcus aureus*, one of the pathogens known to cause food poisoning is often present on the scalp and skin of people with good standards of personal hygiene.

Therefore, a complete covering of the scalp is needed to create a barrier in environments where open food is handled or processed.

How effective are your coverings?

The BRC states that you should 'fully contain all scalp hair to prevent product contamination; this includes snoods for beards and moustaches, where required' – Section 7.4 .2 – personnel.

Both HACCP International and the University of Bolton undertook in-depth testing to assess the effectiveness of hair coverings. They both independently came to the same conclusion, that the mob caps submitted failed the certification process.

According to Professor Subhash Anand MBE, Professor of Technical Textiles, University of Bolton, "non-woven fabrics such as those used in mob and bouffant caps should not be used as a hair barrier fabric – it will neither hold the head of hair nor grip hair that protrudes through – it is a totally unsuitable material."

The only products that passed the certification process and are recommended by HACCP International are products under Aburnet's HairTite, KleanCap, HairTite Lite and Tek-Chef brands. Importantly, there are products for different areas, such as neck,



beard, arm, nape, amongst others, as it is not just the scalp that poses the risk. For instance, beard hair can be an involuntary target of touch, posing a significant risk.

Effective hair containment

University research found that hair grows in a spiral configuration upwards away from the scalp. Hair will pass through needle holes in both woven and knitted fabrics, but more so in the larger gaps found in non-woven products. Hair is currently contaminating food as hair is protruding through commonly used products.

The solution that the University of Bolton found required head coverings to assist more hairs to lie flat, be lightly recoiling to hold each individual's head of hair and hold the flattened hairs with as many contact points as possible.

Aburnet's products achieve these requirements set by the university. Additionally, in some products the inclusion of anti-microbial treatments found to be greater than 99.9% effective at prohibiting the multiplication of both Gram positive and Gram negative bacteria, further protects the product.

Comfortable headwear – is it possible?

Comfortable headwear is key not only to ensure staff are happy and not distracted

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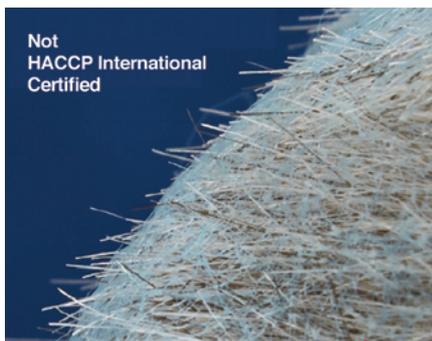
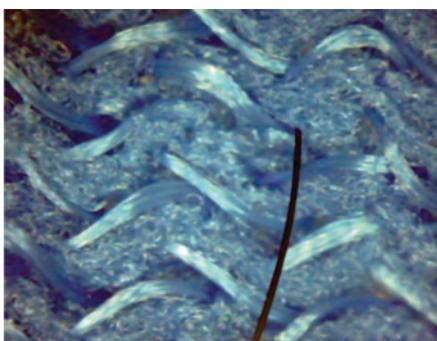
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but to reduce the contamination risk. Head coverings can be hot and uncomfortable to wear and non-woven products limit the release of moisture, quickly becoming hot and uncomfortable.

Furthermore, the product's elasticity is critical; too loose or too tight prompts the user to fidget.

The risk is then increased as the abrasion on the head increases the risk of severance of the damaged hair and disturbs the edge elastication, enabling loose hairs to fall and contaminate food.

KleenCap breathable hair barrier fabric restricts hair penetration. StayCool technology transports moisture through the fabric to evaporate into the atmosphere to help keep workers cool.



Left, a 12gsm mob cap which is not certified by HACCP International and right, KleenCap, which is certified.

As well as disturbing the hair line, if the wearer touches the scalp this can transfer bacteria, such as *Staphylococcus aureus*. To ensure the user does not fidget, a lightweight, breathable fabric is needed.

Products that include StayCool technology promote wicking, which takes moisture away from the scalp leading it to evaporate into the atmosphere, keeping the wearer comfortable.

Industry needs a product that is a one size fits all. But with each individual having a different head size, hair style and hair thickness it is difficult to achieve correctly. Aburnet's specially designed structure means it lightly recoils depending on the user, still creating contact point with the

hair.

Training and auditing

The global food industry often employs many temporary staff, with a significant proportion of migrant labour, making training more difficult. Aburnet's free online audit material, with instant graphical reporting, ensures staff are conforming to requirements.

Most national retailers and producers want to see evidence of an effective hair containment policy, as stipulated by the various safe food organisations. This can be achieved with the free visual training tools