UniformReuse.co.uk Research Report

The use of alternative fibres in corporate clothing

Introduction

When designing or specifying corporate clothing, it is important to consider what the full life impacts are going to be, including what happens at end of life (EoL). The suitability of a particular EoL option depends on the fabric and fibre type of the clothing and this is the focus of the investigation undertaken.

The task of identifying fibre types and evaluating characteristics was split into a series of smaller operations that enabled data to be collected, the results assessed, alternatives to be identified and a collective database assembled.

Corporate clothing was taken to exclude personal protective wear for the purposes of this study. The wide range of garments means that there is a range of fibres/fabrics used. Current performance requirements often necessitate the use of blended yarns rather than homogeneous ones and this has a serious impact on the EoL disposal from corporate use.

An initial review of the trends in textile usage over recent years highlighted the ever increasing global demand for fibres and textiles

Current Position

Data relating to current use was collated from users and suppliers. Large end users within the consortium group supplied information that outlined the range of garments they purchased and gave details of their fibre content. This data was further supported by information obtained from the garment suppliers and textile manufacturers who supply into the corporate clothing sector.

The results which came out of these surveys highlighted that the corporate clothing sector uses a wide range of fabrics: knitted, woven and non-woven. These fabrics are manufactured from an equally wide range of fibres and use blended fibres to optimise properties.

It was also apparent that sustainability is becoming a major issue across the industry and that recent developments have lead to a new generation of regenerated cellulose fibres (lyocell and bamboo) and a renewal of interest in natural fibres such as flax and nettle. These are still emerging into the market even though they may be established in other market sectors.

The construction of garments also highlighted the complex nature of corporatewear. Accessories such as buttons, zips and fasteners can also be manufactured from several different materials, both natural and synthetic.
The diverse nature of the materials used impacts adversely on the ease with which the fabrics can be utilised at their EoL. Not all used garments are collected from the wearer by the corporate bodies; some being left with the user to be disposed of by them. When garments are exchanged the used ones did not always enter into the optimum EoL stream.

Alternative fibres

The interest shown by the corporate sector in new fibres was encouraging, especially within the suppliers and textile manufacturers, where they are looking for novel aspects of supply that can enable them to carve out a niche market. A broad review of other fibres available and how these could be used to continue to satisfy the market demands was carried out, using information largely supplied by the fibre manufacturers.

A considerable amount of interest was shown in the regenerated cellulose fibres which have yet to make a market impact. Fibres such as lyocell and modal were highlighted as having suitable properties to potentially make inroads into the corporate clothing sector. Bamboo fibre appears to be a natural fibre, however it is yet another regenerated cellulose fibre in which marketing has provided a considerable fillip to interest.

Natural fibres have also been shown to have advantages in terms of their durability, however the supply chains within the UK are still very much at the development stage and will take time to become established.

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EoL opportunities and barriers

The possible EoL streams were identified and the barriers to secondary uses evaluated. The major impediment to minimising landfill was the widespread use of blended fibres. While cellulose and regenerated cellulose have several options available to them, blends are almost inevitably condemned to the landfill option.
Coupled with the use of blends is the need to identify the fibres used. While current labelling can provide this information, laundering tends to cause the label to fade. New techniques may be needed to improve the ease of sorting of used garments. The range of analytical techniques enabling identification is broad ranging from simple burn tests to complex spectroscopy.
The presence of corporate logos on garments was seen as a barrier to some EoL streams. While the presence of the logo in less economically developed countries (LEDCs) may not present any problems, use of garments bearing logos within the UK can present a security risk. Removal of these logos is seen to be of paramount importance. Eventually this may require a new approach to the design and application of logos, but this may lead to a more uniform style of logo and a reduction in the individuality currently attached to brand identity.

The one major bonus associated with corporate clothing should be that garment collection will be centralised within a corporate body. At the point of issuing new garments, collection of the old ones should permit them to be sorted into the optimum EoL stream. Within the company there should be sufficient knowledge of the fibre types used in any garment and this should enable the amount of unknown material to be reduced and therefore restrict the amount sent directly to landfill.

Education at all levels was considered to play an essential part in reducing the amount of fibres sent to landfill.

Selection of alternative fibres

In order to encourage changes in fibres used, an essential part of the education process was seen to be the provision of a summary of the properties of the fibres that are available. A simple data base has been provided which will need to be updated and maintained as more information becomes available. Additional information relating to the range of fibres can be obtained from specialists in the different fields.

Conclusions

The range of EoL possibilities and preferred options will be influenced by the nature of the fibre/fabric in use, however there is a need to ensure that fibres/fabrics are placed into the most advantageous disposal stream. Identification and sorting of the garments is therefore an essential part of the process and probably provides one of the biggest barriers to decreasing the level of textiles sent to landfill.

Understanding the options available, and therefore being able to make considered decisions dependent on garment characteristics required and responsible disposal option opportunity, is critical. Having access to the database of fabric and fibre types available at www.uniformreuse.co.uk is one means of achieving this.

Further work in this area would be beneficial, particularly the extension of the range of garment types to include personal protective wear, and potentially stretching the remit to encompass high street, fashion apparel as well.

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