

A Review of Antimicrobial Strategy for Cotton Textile

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Abstract : Cotton textile has large specific surfaces with good adhesion and water-storage properties which provide conditions for the growth and settlement of biological organisms. In addition, the soil, dust and solutes from sweat can also be the sources of nutrients for microorganisms [236]. Generally speaking, algae can grow on textiles under very moist conditions, providing nutrients for fungi and bacteria growth. Fungi cause multiple problems to textiles including discolouration, coloured stains and fibre damage. Bacteria can damage fibre and cause unpleasant odours with a slick and slimy feel. In addition, microbes can disrupt the manufacturing processes such as textile dyeing, printing and finishing operations through the reduction of viscosity, fermentation and mold formation. Therefore, a large demand exists for the anti-microbially finished textiles capable of avoiding or limiting microbial fibre degradation or bio fouling, bacterial incidence, odour generation and spreading or transfer of pathogens. In this review, the main strategy for cotton textile will be reviewed. In the beginning, the classification of bacteria and germs which are commonly found with cotton textiles will be introduced. The chemistry of antimicrobial finishing will be discussed. In addition, the types of antimicrobial treatment will be summarized. Finally, the application and evaluation of antimicrobial treatment on cotton textile will be discussed.

Keywords : antimicrobial, cotton, textile, review

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