

Designing Medical Protective Clothing Using Eco-Friendly Cotton Fabrics Treated with Silver Nanoparticles

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Abstract:

The use of technical fabrics is becoming more and more extensive, because the performance and functional properties with various applications based on the end uses from the selection of fibers to the processing method are the keys to the development of new products in the textile arena in all areas of life. The applications are divided into a very diverse range of technical textile products, including protection applications, especially medical protection. Medical fabrics are among the fabrics that require attention in order to catch up with progress in the field of medical textile design technology and raise the efficiency of the performance of these textiles to reach the level of quality that achieves the ability to compete globally. The quality of the product is determined by the suitability of the actual properties of the cloth with the requirements of use and the suitability of the function for which it was produced. The functional suitability is determined according to a careful study of the nature and conditions of use and according to specific specifications and conditions, taking into account the achievement of aspects of environmental sustainability and environmental design, and the achievement of quality standards that provide safety for patients and workers in the hospital. The medical field. There are many obstacles that hinder medical workers when using medical clothing, such as the low quality of some materials used and the

inappropriateness of colors and designs to the nature of work, as there is an effect of clothing on raising the psychological state of both medical staff and patients, which positively affects the performance of job tasks effectively .The current research paper reviews the use of environmentally friendly materials to design medical protective clothing, through the use of cotton fabrics, which is a natural source and has been treated against viruses using nanometer silver particles, which is also a natural source. The second step comes in creating designs that achieve functional and aesthetic characteristics. Medical protective clothing for Benha University Hospitals using CLO3D program. Preparing a questionnaire to measure the validity of these designs proposed by specialists in the field and another for the target group.

Key words

Medical protective clothing, protective clothing, functional clothing design