Comparative study of antimicrobial properties of cotton fabric and 100% pure bamboo fabric finished with $AgNO_3$

BTTM/BS
May 2017

Comparative study of antimicrobial properties of cotton fabric and 100% pure bamboo fabric finished with $AgNO_3$

By

Taimoor Ul Hassan

13024035002

Amra Sohail

13022011007

For

BTTM/BS Textile

School of Textile and Design

University of Management and Technology

Lahore

Session: 2013-17

Comparative study of antimicrobial properties of cotton fabric and 100% pure bamboo fabric finished with $AgNO_3$

A report submitted to

School of Textile and Design

degree

Bachelor of Science/Technology

in

Textile Sciences/Textile Management

by

Taimoor ul Hassan ID: 13024035002
Amra Sohail ID: 13022011007

University of Management and Technology

Session: 2013-17

Acknowledgement

We have no words to express our deepest sense of gratitude to Almighty **Allah** (the most merciful and gracious), who enabled us to complete these studies. We offer our humblest feelings of devotion from the deepest core of our hearts to the **Holy Prophet Hazrat Muhammad (P.B.U.H)** who is forever a model of guidance and knowledge for humanity.

We are thankful to our institute, **University of Management and Technology, Lahore**, to provide us an opportunity to fulfill the requirements of this rigorous and real time piece of work.

We are extremely thankful to **Dr. Mumtaz Hassan Malik,** ***Dean STD, UMT*** for his support.

We are thankful to **Madam Faiza Anwer** for playing pivotal role to keep us on the right track. Every time we were low, his guidance illuminated golden way of success. His technical as well as moral support encouraged us to complete the task in time and for giving us innovative ideas in course of developing this project.

The loveliest blessing of our parents and other family members, whose extra ordinary level of love, encouragement and accomplishments mean so much to us.

We are especially thankful to **Mr. Sharjeel Ahmad,** Ph.D scholar in National textile university Faisalabad his for allowing us to perform our work in his Lab.

Student's Signature: ________________________

Name of Student: **Taimoor Ul Hassan**

Student's Signature: ________________________

Name of Student: **Amra Sohail**

Date: May 26, 2017

Declaration

We hereby declare that all the information in this thesis is the result of our concerted efforts and our original work. This research work, to the best of our knowledge and belief, reproduces no material previously published or written, or that has been accepted for the award of any other degree or diploma, except where due acknowledgement has been made in the text.

Student's Signature: ________________________

Name of Student: **Taimoor Ul Hassan**

Student's Signature: ________________________

Name of Student: **Amra Sohail**

Date: May 26, 2017

Abstract

The main objective of this research work is to find the best quality fabric that has good antimicrobial properties for the antimicrobial activity. Antimicrobial is an agent that used to stop the development of microbes and sometime its kill's microbes. Two types of fabrics are used for the experimentation: one is cotton and other is bamboo fabric. Moreover, these fabrics are treated with different concentration of Silver nanopartilces. After the treatment of Silver nanopartilces on both fabrics, the samples are checked with respect to the tensile strength, contact angel, CIE whiteness and antimicrobial tests. The results show that the cotton samples shows better than that of bamboo in both the cases: before and after washing.

Table of Contents

List of Table:

List of Figure:

Introduction

Textile is the oldest field of the industrial history. This field is very much important. Initially textile only for protection of body and comfort. Over time, however, the textile industry has grown and developed spontaneously. According to innovation and invention, textile has passed through a lot of changes from conventional to technical textiles. Now textile includes lot of new products apart from clothing and yarn.