Saltless reactive dyeing of cotton fabric

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(Signed)

_____ (ANAM ABDUL GHAFFAR BUTT 13022011006)

Date:

16 June 2017

Declaration

I hereby declare that all the information in this project entitled "**Salt Less Reactive Dyeing Of Cotton Fabric**" is the result of my collaborative efforts and my original work. In this research work, the information and data given is authentic to the best of my knowledge.

This project report is not submitted to another university or institute for the reward of any degree, diploma or fellowship or published before.

Student's Signature: _____

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Date: 16 June 2017

State of Submission

The title of research project “Saltless reactive dyeing of cotton fabric” is being submitted for the completion of the degree from School of Textile and Design, University of Management and Technology, Lahore Pakistan.

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Abstract

Reactive dyesexceptionally dominant for cellulosic materials as they are ecologically protected and having greatfastnessproperties.but the application of these dyeing involves the high concentration of salt which negatively affects natural environment as it creates saltiness in drain water stream.The present work focus on theelimination of salt used for the dyeing of cotton goods with reactive dyes. This study introduces salt free reactive dyeing on cotton which would not contribute to ecological contamination. The basic purpose of this study is to explore promising approach to reduce cost of dye process. In this project, the fibre modification technique based on chitosan and 1,2 dichloroethane has been discussed. When the fabric is treated with polyacrylamide which make the cellulose to act like as wool fibre and thereforecotton can be dyed with reactive dyes at neutral PH in the absence of electrolyte and alkali. Similarly when fabric is treated with an emulsion of 1,2 dichloroethane and after that treatment the fabric is subjected to amination wit sodium hydroxide.The treatment was found to develop the color fixation also. The modification was studied through fundamental examination.

Keywords : Salt Free Dyeing, PH, 1,2 Dichloroethane, Polyacrylamide (Chitosan), Reactive Dye, Cellulose, Amide Groups, Cotton, Chemical reactions, Modification of fiber

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Introduction

Beyond our imagination, the ancient world was much more colourful.natural matter is used by ancient people to beautify feathers and shellson the walls of oldencavesto paint their story and to hide the stain. The primaryrecord of fabric dyeing goes back to 2600 BC. In the past, dyes were used to decorate skin, jewelry and clothing, it was made with natural pigments mixed with oil and water. Scientists have noticed to date the white, black, reddish and yellow pigments is prepared of ochre over 15,000 BC in cave paintings[1]. Those same colors were utilized for painting ancient hollows, which risen in spots like El Castillo, Spain, somewhere in the range of 40,000 years prior.While scientists have not been able to find an exact time till now that where adding color to fibers first came into practice.