

**UNIVERSITI TEKNOLOGI MARA**

**IMPROVING THE WRINKLE  
RESISTANCE OF COTTON AND  
RAYON BATIKS**

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Thesis submitted in fulfillment  
of the requirements for the degree of  
**Master of Science**

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## **AUTHOR'S DECLARATION**

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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## ABSTRACT

Malaysians are proud of their batik fabrics and products. Various promotional events such as “Batik Crafted for the World” and “Piala Seri Endon” competition were introduced to promote and enhance the popularity of batik. Batik designs are normally applied on silk, cotton and rayon fabrics. However, the problem with cotton and rayon batiks is that they wrinkle badly. In addition, the application of wrinkle free finishes was not formulated specifically for batik fabric. Existing wrinkle free finishes have very good effect on normal fabrics; however the applications of these finishes on batik fabric are not effective. Newer formulations of the wrinkle free finish and the application techniques for batik fabric were studied. The main purpose of this study is to develop a formulation for cotton and rayon batiks to improve wrinkle resistance. The formulation consists of wrinkle resistance agent, magnesium salt, acid and softener. The formulation was applied to cotton and rayon batik fabrics by using padding mangle method and exhaustion method. The comparisons of the two different application methods were analyzed by evaluating the handle properties which are wrinkle recovery appearance, stiffness and wrinkle recovery angle. Both methods indicated almost similar results for stiffness and wrinkle recovery angle testing. However, for wrinkle recovery appearance testing, padding mangle method produced better result. Further testing on the formaldehyde content and colourfastness to washing were also implemented to assure that the fabrics are safe to the wearer and the finishes that were applied to the fabrics did not bring down the colour of the fabrics. The adoption of this unique technique will evidently improve the quality of Malaysian batik.

## TABLE OF CONTENTS

	<b>Page</b>
<b>AUTHOR'S DECLARATION</b>	ii
<b>ABSTRACT</b>	iii
<b>ACKNOWLEDGEMENTS</b>	iv
<b>TABLE OF CONTENTS</b>	v
<b>LIST OF TABLES</b>	viii
<b>LIST OF FIGURES</b>	xi
<b>CHAPTER ONE: INTRODUCTION</b>	
1.1 Problem Statement	3
1.2 Objectives of the Research	4
1.3 Scope of the Research	5
1.4 Significance of the Research	5
<b>CHAPTER TWO: LITERATURE REVIEW</b>	
2.1 Malaysian Batiks	6
2.2 History of Malaysian Batiks	6
2.3 Types of Batiks	7
2.3.1 Hand-Drawn Batiks	7
2.3.2 Block Printed Batiks	8
2.4 Development in Batik	8
2.5 Cotton and Rayon Fabrics	9
2.6 History of Wrinkle Resistance Finishes	10
2.7 Wrinkle Resistance Finishes	
2.7.1 Formaldehyde	12
2.7.2 Non-Formaldehyde	15
2.8 Wrinkle Resistance Finishes on Cellulosic Fabrics	18
2.9 Application Methods	19
2.9.1 Padding Method (Pad-Dry-Cure)	20
2.9.2 Exhaustion Method	21

## **CHAPTER THREE: RESEARCH METHODOLOGY**

3.1	Fabric materials	22
3.1.1	Batik produced in the laboratory	24
3.1.2	Batik from the manufacturer	25
3.2	Chemicals	25
3.2.1	Crosslinking Agent	25
3.2.2	Catalyst	26
3.2.3	Softener	26
3.2.4	Wetting Agent	27
3.3	Wrinkle Resistance Finishes	28
3.3.1	Formulations of easy care finish to the batik fabrics	28
3.3.2	Application Methods	
3.3.2.1	Padding mangle (Pad-Dry-Cure)	30
3.3.1.2	Exhaustion Machine	31
3.3.2	Drying	31
3.3.3	Curing	31
3.4	Testing of fabric properties	32
3.4.1	Width (MS ISO 3932 – 2003)	33
3.4.2	Thickness ( MS ISO 5084 – 2003)	33
3.4.3	Weight (MS ISO 3801 – 2003)	33
3.4.4	Density ( MS ISO 7211/2 – 2003)	33
3.4.5	Wrinkle Recovery Angle ( AATCC 66 – 2003)	33
3.4.6	Stiffness (ASTM D 1388 – 96/2002)	34
3.4.7	Wrinkle Recovery Appearance ( AATCC Test Method 128)	34
3.4.8	Formaldehyde Content (Japanese Method Law 112)	34
3.5	Statistical Analysis	35

## **CHAPTER FOUR: RESULTS**

4.1	Results on Fabric Properties	38
4.2	Results on Handle Properties of Batik Fabrics	39
4.3	Wrinkle Recovery Angle	39
4.3.1	Padding Method	40
4.3.2	Exhaustion Method	45
4.4	Wrinkle Recovery Appearance	49