

**FINISHING PROPERTIES OF NITROCELLULOSE (NC) ON
MERSAWA WOOD BY STEAM TREATMENT**

MAZULIZAM BIN MD ALI HANAPIAH

**BACHELOR OF SCIENCE (Hons)
FURNITURE TECHNOLOGY
FACULTY OF APPLIED SCIENCES
UNIVERSITI TEKNOLOGI MARA**

JULY 2013

TABLE OF CONTENTS

	Page
DEDICATION	iii
ACKNOWLEDGMENTS	iv
TABLE OF CONTENTS	v
LIST OF TABLE	vii
LIST OF FIGURES	viii
LIST OF PLATES	ix
LIST OF ABBREVIATIONS	x
ABSTRACT	xi
ABSTRAK	xii
CHAPTER 1 INTRODUCTION	
1.1 General	1
1.2 Problem statement	3
1.3 Objectives	4
CHAPTER 2 LITERATURE REVIEW	
2.1 Lacquer	5
2.1.1 Nitrocellulose lacquer	6
2.2 Mersawa (<i>Anisoptera spp</i>)	7
2.2.1 Density	9
2.2.2 Natural durability	9
2.2.3 Presrvative treatment	10
2.2.4 Texture	10
2.3 Strength properties	11
2.4 Machining properties	11
2.5 Air drying	12
2.6 Kiln-drying	12
2.7 Shrinkage	13
2.8 Defect	13
2.8.1 Uses	13
2.9 Wood Steaming Technique	14
2.9.1 Effect Of steaming on Solid wood	15
CHAPTER 3 METHODOLOGY	
3.1 Materials	16
3.2 Methodology	17
3.2.1 Cut to size	18
3.2.2 Steaming	19
3.2.3 Surface roughness Test	20

3.2.4	Spray	20
3.2.5	Drying	21
3.3	Testing	22
3.3.1	Adhesion Test- Cross cut Test	22
3.3.2	Pencil hardness Test	24
CHAPTER 4 RESULTS AND DISCUSSION		
4.1	Finishing properties of Mersawa wood using Nitrocellulose Coating	25
4.2	Cross-cut Test	25
4.3	Pencil Hardness Test	26
4.4	Effect of Steaming	28
4.5	Statistical Analysis	29
4.6	Relationship Between Ra and Rz in Surface Roughness of Finished Mersawa Spp	31
CHAPTER 5 CONCLUSION AND RECOMMENDATIONS		
		33
CITED REFERENCES		
APPENDICES		
CURRICULUM VITAE		

LIST OF TABLES

Table	Caption	Page
2.1	Strength properties of some species of <i>Anisoptera spp</i>	11
2.2	Machining properties of Mersawa	11
2.3	Kiln-drying schedule for drying Mersawa wood	12
4.1	Finishing properties of Mersawa wood using Nitrocellulose coating	25
4.2	Cross-cut test result	26
4.3	Pencil Hardness test	27
4.4	Statistical analysis of surface roughness at different steaming times for mersawa wood	29
4.5	The correlation Between the mean (Ra) and mean (Rz)	31

ABSTRACT

FINISHING PROPERTIES OF NITROCELLULOSE (NC) ON MERSAWA WOOD BY STEAM TREATMENT

This study was carried out the finishing properties of nitrocellulose (NC) on mersawa which has been implemented steam treatment on the wood surface. The objectives of this study are to analyses the effect steaming on finishing properties of nitrocellulose (NC) on mersawa wood and to compare the finishing properties of control and non-control on mersawa wood using NC lacquer. There is no specific research or data that has been conducted and gathered to prove this statement especially about the surface of the wood after steaming and the effect of finishing after steaming. The tests have been conducted were surface roughnes tester, cross cut test and pencil hardness test. The results were analysis using analysis of variance (ANOVA). The result of the surface roughness and steaming show the significant effect after apply finishing. It can be concluded that the wood surface after treated with steam can offer the better surface after apply the finishing.