## FINISHING PERFORMANCE OF ACID CATALYST (AC) LACQUER ON OIL PALM LUMBER

Ву

NURAMIRATUL HAKIMAH BINTI BADRUL NIDZAM

This Project Report Submitted in Partial Fulfillment of The Requirements for The Bachelor of Science (Hons.) Furniture Technology In The Faculty of Applied Sciences Universiti Teknologi MARA

**JANUARY 2016** 

**CANDIDATE'S DECLARATION** 

I declare that the work in this thesis was carried out in accordance with the

regulation 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 other degree or qualification.

In the event that my thesis is found to violet the conditions mentioned above, I

voluntarily waive the right of conferment of my degree and agree to be subjected

to the disciplinary rules and regulation of Universiti Teknologi MARA.

Name of candidates

: Nuramiratul Hakimah Binti Badrul Nidzam

Candidate's ID No

: 2013309293

Programme

: Bachelor of Science (Hons.) in Furniture

Technology

Faculty

: Applied Sciences

Thesis Title

: Finishing Performance of Acid Catalyst (AC)

Lacquer on Oil Palm Lumber

Signature of Candidate

Date

: January 2016

iν

## **ABSTRACT**

## FINISHING PERFORMANCES OF ACID CATALYST (AC) LACQUER ON OIL PALM LUMBER (OPL)

Finishing is the most important part of manufacturing furniture process. The benefits of finishing are to give protection and attractive appearance on product itself. The objective of this study was to determine the suitability of AC lacquer to be applied on OPL and to compare the effect of different finishing system layer using AC lacquer on surface OPL. For system A, the processes of sealer were repeated five times and topcoat will repeated four times. Meanwhile, for system B, the processes of sealer were repeated four times and topcoats were repeated two times. The coating material use in this study is acid catalyst lacquer. The tests that will do household test, heat resistance test and pencil hardness test. This study are used the ASTM and BS standard for the method and procedures. The household and pencil hardness test for system A are gives a best result and for heat resistance the result show no different between system A and system B. For the best performance on OPL it can add more layers on finishing system on OPL.

## **TABLE OF CONTENTS**

				Pages
APPROVAL SHEET DEDICATIONS CANDIDATE'S DECLARATION ACKNOWLEDGEMENT TABLE OF CONTENTS LIST OF TABLES LIST OF FIGURES LIST OF PLATES LIST OF APPENDICES LIST OF ABBREVIATIONS ABSTRACT ABSTRAK				
CHAPTE	R			
1	1.1 1.2 1.3 1.4	_	round of Study em Statement cation	1 3 3 4
2	2.1 2.2	Botani 2.1.1 2.1.2 2.1.3 2.1.4 2.1.5 2.1.6		5 6 7 8 9 10 11 11 12 13 14 14

		2.2.6 Sealer	15		
		2.2.7 Hardener	15		
		2.2.8 Thinner	16		
		2.2.9 Spray Gun	16		
3	MATE	ERIALS AND METHODS			
·	3.1 Preparation of Raw Material				
•	3.2	Material Selection	18 22		
	3.3	Design of Experimental (DOE)			
	3.4	Methods			
		3.4.1 Board Preparation	25 25		
		3.4.2 Surface Preparation	27		
		3.4.3 Finishing Application and System	28		
	3.5	Evaluation of OPL Properties	29		
		3.5.1 Household Test	29		
	,	3.5.2 Heat Resistance Test	31		
		3.5.3 Pencil Hardness Test	32		
	3.6	Statistical Analysis	33		
4	DEGII	ILTS AND DISCUSSION			
4	4.1				
	4.2	Household Testing			
	4.3	Heat Resistance Testing			
	4.4	Pencil Hardness Testing			
	7.7	4.4.1 The Effect of Different Finishing System	40		
		on Pencil Hardness of OPL	41		
5	CONC	CLUSIONS AND RECOMMENDATIONS			
3	5.1 Conclusions				
	5.2	Recommendations	43 44		
	0.2	Noonimondations	77		
REFERENCES					
APPENDICES CURRICULUM VITAE					