# PERFORMANCE OF CHAIRS FROM *Eucalyptus pellita* AND PUBLIC ACCEPTATION

#### NURUL NADHIRAH BINTI MAZLAN

This Final Year Project Research Submitted Partial Fulfillment of the Requirement for the Degree Bachelor of Science (Hons.) Furniture Technology in the Faculty of Applied Sciences Universiti Teknologi Mara

**JULY 2017** 

#### 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 results of my work, unless otherwise indicate or acknowledged as reference work. This thesis has not been submitted to any academic institution on non-academic institution for any other degree or qualification.

In the event that if my thesis is found violent the condition mentioned above, I voluntarily waive the right of conferment of my degree and agreed to be subjected to the disciplinary rules and regulation of Universiti Teknologi MARA.

Candidate's signatur	e:	
Name of Candidate	: Nutul Nadhirah Binti Mazlan	
Candidate Matrix ID	: 2015872758	
Program	: Bachelor of Science (Hons.) in Furniture Technology	
Faculty	: Applied Sciences	
Title	: Performance of Chairs from <i>Eucalyptus Pellita</i> and Public Acceptation	
Date	: July 2017	

#### ABSTRACT

# PERFORMANCE OF CHAIRS FROM *Eucalyptus pellita* AND PUBLIC ACCEPTATION

The purpose of this study is identify the potential of *Eucalyptus pellita* wood as raw material for wooden furniture industry. The fast growing tree is the most raw material that has been used in furniture industry. The increasing demand to export the wooden furniture from Malaysia was really surprising. Therefore, the tree that has potential and fast growing is seek to supplement the wood that already use in industry furniture. The clear specimen was carried out to find out the properties of the wood. Questionnaire survey (refer Appendix 1) is distributed to the public for identify the acceptance people against the product from the *Eucalyptus pellita* wood. From the survey appearance factor is in first rank which it most influence by age, followed by gender, status and profession. Chairs was develop to be tested to determine the performance of the chairs towards the Furniture Testing. Result shows that the best quality of chair is Type A with Mortise and Tenon compared to chair Type B with Allen Key Screw. This is because

## TABLE OF CONTENTS

i
ii
ili
iv
v
viii
ix
х
xi
xii
xiii
xiv

# CHAPTER

1	INTRODUCTION		
		Background Study Problem Statement Scope and Limitations Objectives	1 2 3 4
2	LITE	RATURE REVIEW	
	2.1	Wooden Furniture	5
	2.2	Fast Growing Species for Furniture Industry in	
		Malaysia	6
		2.2.1 Havea brasiliensis (Rubber wood)	7
		2.2.2 Octomeles sumatrana (Binuang)	8
		2.2.3 Neolamarckia cadamba (Kelempayan)	8
		2.2.4 Khaya ivorensis	9
		2.2.5 Tectona grandis (Teak/Jati)	9
		2.2.6 Azadirachta excels (Sentang)	10
		2.2.7 Acacia mangium (Brown Salwood)	10
		2.2.8 Paraserianthes falcataria (Batai)	11
		2.2.9 New Potential Species of Fast Growing -	
		Eucalyptus pellita	12
	2.3	The Demand and Fast Growing Species	13
	2.4	Fastening and Joinery	13
		2.4.1 Allen Flat Head Screw with Inserted Cross	
		Dowol Nut	10

	Dowel Nut	13
2.4.2	Mortise and Tenon	14

#### 3 MATERIALS AND METHODS

3.1	Mater	ials Preparation	15
	3.1.1	Wood	15
	3.1.2	Joinery	17
	3.1.3	Fastener	17
3.2	Small	Clear Specimen	17
	3.2.1	Cut Wood into Size	17
	3.2.2	Insert Data	17
	3.2.3	Placing the Sample	18
	3.2.4	Data Collection	18
3.3	Devel	op the Chairs	18
	3.3.1	Manufacturing Process	20
	3.3.2	Product Design	20
	3.3.3	Mock-up	20
	3.3.4	Production	20
	3.3.5	Finishing	25
	3.3.6	Survey	25
	3.3.7	Product Testing	25
3.4	Data	Analysis	26

### 4 RESULTS AND DISCUSSIONS

4.1	Introduction	22
4.2	MOE and MOR of Eucalyptus pellita	28
4.3	Demographic Analysis	28
4.4	Descriptive Analysis	32
	4.4.1 Overall of Descriptive	34
4.5	Chair Testing	41
	4.5.1 Type A (Mortise and Tenon)	41
	4.5.2 Type B (Allen Key Screw)	41

### 5 CONCLUSIONS AND RECOMMENDATIONS

5.1	Conclusions	47
5.2	Recommendations	48