PRELIMINARY STUDY ON PROPERTIES OF SINGLE LAYER BINDERLESS PARTICLEBOARD FROM OIL PALM FROND

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TABLE OF CONTENT

		Page
PROJECT TITLE		i
APPROVAL SHEET		ii
DEDICATION		iii
ACKNOWLEDGEMENT		iv
TABLE OF CONTENT		v
LIST OF TABLES		vii
LIST OF FIGURES		viii
LIST OF ABBREVATION		ix
ABSTRACT		x
ABSTRAK		xi
CHAPTER		
I.	INTRODUCTION	1
	1.1 Justification of the study	5
	1.2 Objectives	5
II.	LITERATURE REVIEW	6
	2.1 Bindelessboard	6
	2.2 Oil palm	8
	2.3 Utilization of oil palm biomass	9
	2.3.1 Oil palm trunk	10
	2.3.2 Oil palm frond	11
	2.3.3 Empty fruit brunch	12
	2.4 Particleboard	15
	2.4.1 Adhesive	16
	2.4.2 Disadvantage	17

III. MATERIALS AND METHOD..... 18

3.1 Preparation of raw material..... 19

3.2 Production of binderless panels..... 20

3.2.1 Particles drying..... 20

3.2.2 Pre-pressing..... 20

3.2.3 Hot press..... 20

3.2.4 Conditioning and cutting the panels..... 21

3.3 Testing of binderless panels..... 22

3.3.1 Moisture Content and Density..... 22

3.3.2 Bending Strength..... 23

3.3.3 Water Absorption and Thickness Swelling..... 24

3.3.4 Internal Bonding Strength..... 25

IV. RESULTS AND DISCUSSION..... 26

4.1 Chenical composition..... 26

4.2 Physical properties..... 27

4.3 Bending strength..... 28

4.4 Water absorption and thickness swelling..... 29

4.5 Internal bonding strength..... 30

V. CONCLUSION AND RECOMMENDATION..... 31

REFFERENCES..... 33

APPENDICES..... 34

VITA..... 41

ABSTRACT

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In this study, this binderless particleboard was invented to replaced the current particleboard because the current particleboard using an adhesive that will affect human health with the chemical content. This binderless particleboard is utilized by natural self bonding and pressed under heat and pressure. The properties of this binderless particleboard will be determined by several types of test according to Japanese Industrial Standard (JIS). The result shows that there some different tress criteria that will be affected of the board properties. There were some testing that will evaluate these binderless particleboard properties due to the required standard, such as internal bonding, bending testing, water absorption, and thickness swelling. In conclusion, the binderless particle board derived from oil palm frond is not achieved the requirement for Japanese Industrial Standard (JIS). Another research should be done continuously to find a better solution due to the problem above. In this pre – liminary study, the board is not suitable for commercialized and further study are needed to enhance the properties of this board.