BENDING PROPERTIES OF ORIENTED STRANDBOARD FROM MIX ACACIA AND MAHANG AT 5% RESIN CONTENT WITH DIFFERENT DENSITY

By Nurul Ashima bt Rohimi

Final Project Paper Submitted in Partial Fulfillment for the Diploma in Wood Industry, Faculty of Applied Science Universiti Teknologi MARA,
Pahang Darul Makmur

November 2005

ACKNOWLEDGEMENT

First of all, I would like to take this opportunity to express my special thank to Allah S.W.T. for His Blessing and Strength rendered to me to complete my project entitled Properties of Oriented Strand board from mix Acacia and Mahang at 5% resin content with different density. I would like to offer my special thank to my beloved parent and family for their supports and pray.

I would like to offer my special thank to my advisor Mr. Wan Mohd Nazri B. Wan Abdul Rahman, for his guidance and knowledge and also his help at every phase of my study. He is so generous in lending his helping hand and showing us the correct ways of forming our tasks. I would like to express my most sincere thank to him.

Also special thank to all my beloved friends for their continuous supports and helps.

Lastly, I also extent my appreciation to whom are involved either directly or indirectly in completing this report. I believe, without their helps I won't be able to complete this report.

List of Plate	Page
3.1: Logging Process	15
3.2: Billets	16
3.3: Stranding Process	17
3.4: Screening	18
3.5: Drying in the Oven Dry	19
3.6: Blending Machine	20
3.7: Forming Process	21
3.8: Cold Press Machine	22
3.9: Hot Press Machine	23
3.10: OSB Boards	24

List of Figure	Page
3.1: Flow Chart Process of OSB	14
3.2: Log was cut into Billet	16
3.3: Mould for Manual Making of OSB	21
3.4: Size of OSB which Must Be Trim	24
3.5: Sample That Need To Cut for Testing.	25
3.6: Size for Bending Test	25
3.7: Bending Test	26
4.1: MOE against Standard EN 310.	30
4.2: MOR against Standard EN 310.	32

Bending Properties of Oriented Strand Board from Mix of Acacia and Mahang at 5% Resin Content with Different Density

By

NURUL ASHIMA BT ROHIMI

November 2005

ABSTRACT

OSB is a new type of wood composite, which is yet to be commercially produced in Malaysia. It is made from long, thin and narrow wood strands bonded by a synthetic resin and converted into a solid panel during the hot pressing operation. This type of board is considered as an engineered product with a great strength and dimensionally stables. This paper discusses the bending strength properties of OSB made from mix *Acacia mangium* and *Macaranga gigantae* at 5% resin content with different density of 600kg/m³ and 700kg/m³ which value of MOE and MOR meet the minimum requirement of the European Nation Standards (EN 310). It is conclude that density of 700kg/m³ board is the optimum treatment compare to the 600kg/m³ board to make OSB from mix Acacia and Mahang.