PROPERTIES OF ORIENTED STRAND BOARD MANUFACTURE FROM 8 YEARS OLD PETAI BELALANG (*Leucaena leucocephala*) IN RELATION TO STRAND SIZE AND RESIN CONTENT

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Final Project Submitted in Partial Fulfillment for the Diploma in Wood Industry,
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October 2007

ACKNOWLEDGEMENT

First of all, I would like to thanks to the Almighty Allah s.w.t for the blessing and strength rendered to me to complete my final project entitle Properties of Oriented Strand Board from 8 Years Old Petai Belalang (*Leuceana Leucocephala*) is Related for Strand Size and Resin Content.

To Mr. Ahmad Fauzi bin Othman and Mr Wan Mohd Nazri b Wan Abdul Rahman whose willingness to contribute his knowledge, time and effort till me had complete my final project for guiding, reading and offering comment as the project evolved. I gratefully acknowledge his helpful suggestion.

Also to lectures Prof Madya Dr. Jamaludin bin Kasim, for his comments, suggestions and class study. To staff Mr. Ahmad Sardey, Mr. Nazri,Mr. Aksso and Mr Shahril Ezani for their supported and helping us to complete this project either workshop and outdoor work. Also, thanks a lot to my group members for your support and co-operation.

Finally, my proudest gratitude goes out to our beloved family, my siblings; always support me throughout my life. Your support will give us strongest. Thanks a lot.

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ABSTRACT

PROPERTIES OF ORIENTED STRAND BOARD (OSB) MANUFACTURE FROM 8 YEARS OLD PETAI BELALANG (*Leucaena leucocephala*) IN RELATION STRAND TO SIZE AND RESIN CONTENT

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Oriented Strand Board (OSB) is one of many wood composites. The objectives for this study are to determine the mechanical and physical properties of OSB with different grain either major or minor axis from this species. Besides, to study the effect of strand size and resin content of the OSB properties. The testing on the board are bending strength include Modulus of Rupture (MOR) and Modulus of Elasticity (MOE), internal bonding and thickness swelling. Also, compare the strength between minor and major axis. The result of these specimens will be compared to the minimum requirement of European Standard (EN 310). This study is using 5% and 7% resin with 41.8% solid content of phenol formaldehyde that act as binder between strands and the target density is 700kg/m^3. OSB will get an optimum result is using 7% resin at the 700kg/m^3 density and largest strand size which is treatment S1+S2. Compare between major and minor axis, major more strength because of direction of strands is parallel to the grain. From these results, we had determined which one of the treatments is suitable to be commercialized or not.