

**WITHDRAWAL STRENGTH AND PHYSICAL PROPERTIES OF
THREE LAYERS HYBRID PARTICLEBOARD**

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**Final Year Project Report Submitted in
Partial Fulfillment of the Requirements for the
Degree of Bachelor of Science (Hons.) Furniture Technology in the
Faculty of Applied Sciences
Universiti Teknologi MARA**

JANUARY 2012

ACKNOWLEDGEMENTS

Praise to God for His Blessings and Guidance for me that I was able to complete my final year project: **Withdrawal Strength and Physical Properties of Three Layers Hybrid Particleboard.**

I would like to thank my advisor, Madam Siti Noorbaini binti Sarmin, and my co-advisor, Madam Siti Norzalifah binti Mahmud, for all the useful comments in guiding me to complete this project. It would not be possible for me to complete this project without their guidance.

I would also like to thank my Project Coordinator; Dr. Wan Mohd Nazri bin Wan Abd. Rahman and Prof. Dr. Jamaludin bin Kasim as the Head of Centre, Wood Industry Department for their help to coordinate my final year project for this semester. My gratitude also goes out to Mr. Mohd Shahril Izanie bin Abdullah, a Wood Department staff, for his guidance in handling all equipment during the project session. Thank you also to all staff who was involved directly and indirectly involved in fulfilling my final year project.

Lastly, my thanks also extends to my parents, Umar bin Abas and Patimah bt Endot, and my family for their support in finishing my studies. I would not be here without their support to complete my studies. Last but not least, thank you to all my friends who supported me to finish this final project. I am very grateful for all the support I have received.

I hope this project will provide knowledge and benefit to the readers. Thank you.

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ABSTRACT

WITHDRAWAL STRENGTH AND PHYSICAL PROPERTIES OF THREE LAYERS HYBRID PARTICLEBOARD

The objectives of this research were to evaluate the nail and screw withdrawal strength and the physical properties of the three-layer hybrid particleboard from *Acacia mangium* particles and wood sawdust in radial directions. 108 samples were produced in different density panels (500, 600 and 700kg/m³) and different resin contents (8:10:8 & 12:10:12) using Urea Formaldehyde (UF) resin. Based on the results of this study, it was found that when the densities were increased, the nail and screw withdrawal strengths were increased. When the resin content was increased, the nail and screw withdrawal strengths were also increased. The screw withdrawal strength was higher than the nail withdrawal strength. In the physical properties, the thickness and water absorption rates were increased when the densities and resin contents increased.