

**PROPERTIES OF WOOD PLASTIC COMPOSITE USING EMPTY  
FRUIT BUNCH WITH DIFFERENT FILLER LOADING**

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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**

**NOVEMBER 2008**

## ACKNOWLEDGEMENTS

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Alhamdulillah. First at all I am grateful to Allah SWT the Al-Mighty in the world. Lastly, I am successfully complete my final project on the given time.

Special thank to my supervisor and co-supervisor, Prof. Madya Said Bin Ahmad and Prof. Madya Dr. Jamaludin Kassim respectively because of their kindly heart giving me advice, opinion, encouragement with their support and assisting I have finish my final project.

Beside that, I am also thanking a lot to my final project coordinator, Madam Judith Gisip that gives me information, knowledge and support to finish my final project. From that information, I get much knowledge and help me to finish my final project. Beside that, I am also thanks a lot to all my friends that help me and give their opinion and advice.

Lastly, to everybody who was involved indirectly in my final project especially all the staff that involve at Uitm of Jengka Branch that I am finished my final project.

Thank you for everything to you all!!!!

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## **ABSTRACT**

### **PROPERTIES OF WOOD PLASTIC COMPOSITE USING EMPTY FRUIT BUNCH WITH DIFFERENT FILLER LOADING**

The properties of wood plastic composite produced from empty fruit bunch were ascertained. The effects of different filler loading were determined. The raw materials used in this study were empty fruit bunch particle and polypropylene. Polypropylene (PP) was used as a binder and empty fruit bunch sawdust as a filler. 15%, 25%, 40% of sawdust and 85%, 75%, 60% of polypropylene has been chosen for this study. There was no MAPP addition in this research. The objective of the study was to evaluate the effects of three difference mixture of filler loading with polypropylene on mechanical and physical properties of wood plastic composite. The tests that are carried in this study were bending, tensile, thickness swelling and water absorption. The results obtained showed that the flexural modulus and tensile modulus decrease when the content of sawdust increased. The flexural strength and tensile strength increased when the content of polypropylene increased. Adding more sawdust in wood plastic composite will result increasing in percentage of water absorption and thickness swelling. So, more polypropylene in wood plastic composite can reduce the water absorption and thickness swelling in wood plastic composite. Water cannot easily absorb in the wood plastic composite. The properties for 15% of sawdust and 85% of polypropylene much better than other filler loading. So, it can used to produce the best quality of wood plastic composite in the future.