PROPERTIES OF WOOD PLASTIC COMPOSITE USING MAHANG SPP. WITH DIFFERENT PARTICLE SIZES

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

NOVEMBER 2008

ACKNOWLEDGEMENTS

Alhamdulillah. First at all I' m very thankful to Allah SWT the Al-Mighty in the world on the successfully to completed my final project on the given time.

Special thank to my advisor, Prof Madya Said B. Ahmad because of his kindly heart giving me advice, encouragement and assisting in finishing final year project proposal. Also, thanks goes to Prof. Madya Dr. Jamaludin b. Kassim as our co- advisor on his advises and help.

I also thank a lot to my coordinator of the project, Madam Judith Gisip on her advice and lesson within this semester. Thanks also to other lecturers who are give their useful opinion on my final project.

Besides that, real thanks to my beloved friends Asmizah, Fatihah and Tuan Idayu who have involved directly in done and finished this final project.

Thank you so much.

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ABTRACT

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The properties of wood plastic composite using Mahang Gajah as filler mixed with polypropylene has been studied. The objectives of the study were to evaluate the differences of particle sizes with polypropylene on the mechanical and physical properties of wood plastic composite. The particle sizes used were 150 microns, 250 microns and 425 microns. The amount of wood particles is 15 percents for each sizes and the amount of plastic are 85 percent. The tests were carried out based on mechanical and physical test. The types of mechanical tests are modulus of rupture, tensile and modulus of elasticity. Meanwhile, the type physical tests are water absorption, thickness swelling. The overall mechanical testing should be decreased with increasing of particle size but the mechanical testing results was showed is quite fluctuated. Most of the physical testing was higher at 150 microns of particles size and decreased at 250 microns of particle size. Then it was increased again at 425 microns of particle size. It might cause by ununiformly during the mat forming process. Small particle size will absorb more water if compared to two other particle sizes. Meanwhile, the highest percentage of water absorption and thickness swelling is at 250 microns of particle size.