

UNIVERSITI TEKNOLOGI MARA

**MECHANICAL AND PHYSICAL PROPERTIES ON
ORIENTED STRAND BOARD FROM
KELEMPAYAN WOOD**

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Thesis submitted in fulfillment of the requirements for the degree of
Bachelor of Science (Hons.)

Faculty of Applied Sciences

May 2011

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ABSTRACT

This study used Kelempayan wood as a raw material in manufacture of oriented strand board (OSB). This tree is naturally grow in Malaysia. Currently rubberwood supply is getting depleting and limited in resources. The objectives of this study were to determine mechanical and physical properties of OSB and effect of resin content. Target board density was 600 kg/m³, then phenol formaldehyde (PF) and urea formaldehyde resin (UF) were use as a binder. The quality of the boards were evaluated by determine of bending properties including modulus of elasticity (MOE), modulus of rupture (MOR), internal bond (IB) strength, thickness swelling (TS) and screw withdrawal. Generally, the mechanical strength increase with an increase in percentage of resin and OSB board from phenol formaldehyde resin is better than those boards from urea formaldehyde resin.

ACKNOWLEDGEMENTS

Firstly, I would like to express my grateful feeling to God because of his blessing until I have been successfully finished and submitted my final year project. Alhamdulillah, with a lot of time that has been given, I kindly complete my project thesis. I greatest gratitude to Allah Almighty for Blessing because I able to still run our life as usual.

I would like to take this opportunity to say a special thanks to everyone especially to my lecturer as my advisor for this subject is the one and the best Dr. Wan Mohd Nazri Bin Wan Abd. Rahman. Actually he always give all his support, suggestion, comment and advice towards in this final project paper.

My thanks also go to FRIM's staff (Furniture Unit) for giving me permission to do my research there, especially Mr. Saimin who has given me much knowledge. Also special thanks to the staff Diploma in Wood Industries workshop, Mr. Shahril and Mr. Sardey for their priceless help in preparing and information gave in this research. All the kindness you've showed I would remember for all our life.

Lastly, for someone very special in our heart who always gives support and advice, our smile make us become stronger and to all my friends and families, thanks you for all. Your support and advices through out completing this report successfully.

We're really appreciating all your kindness. May ALLAH bless you.

Thank you so much.

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