

**PROPERTIES OF PARTICLEBOARDS FROM
OIL PALM (*Elaeis Guineensis*)**

**By
MOHD SHAHRULLAH BIN ABDUL AZIZ
MUHAMMAD ZULBASRI BIN YUSOF
NORLIA BTE SAFRI
NORFADZILATUL HAIDA BTE ABD MALIK**

**DIPLOMA IN WOOD INDUSTRY
UNIVERSITY TEKNOLOGY MARA
OCTOBER 2008**

ACKNOWLEDGEMENT

Alhamdulillah, with a lot of time that has been given, we're kindly complete our report. Our greatest gratitude to Allah Almighty for His Blessing because we're able to still run our life as usual.

We would like to take this opportunity to say a special thanks to everyone especially to our lecturer for this subject is the one and the best Prof. Madya Abdul Jalil and to our supervisor also is the one and the best Prof. Madya Dr. Jamaludin Bin Kasim, for their support, suggestion, comment and advice towards the completion of this final project paper. All the kindness you've showed we would remember for life.

Also special thanks to the staff of Diploma in Wood Industries workshop, Mr. Shahril and Mr. Sardey for their priceless help in preparing and information gave in this research.

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 though out completing this report successfully.

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

Thank You.

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ABSTRACT

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Oil palm (*Elaeis Guineensis*) trunk particles were used in the production of particleboard, with 5, 7 and 9 % phenol formaldehyde (PF) and particle size of 0.5 mm, 1.0 mm and 2.0 mm. The target boards were 500, 600 and 700 kg/m³. The oil palm trunk was obtained from Malaysian Oil palm Board and was cut into 8 inch billets and then flaked using a disc flaker. The flakes produced were then passed through a dust extractor to reduce their sizes. The particles were dried and screened into various sizes. The particles were then blended with phenol formaldehyde resin and compressed under heat for 6 minutes. The particleboard produced was then tested for their mechanical and physical properties using the British standard Methods. The result shows that the percentage of resin used, density and particle size affected significantly on all the properties of the board. With increasing resin content, the MOR, MOE and IB increased.

The water absorption and thickness swelling values decreased as the resin content increased. Board density showed increased values of MOR, MOE and IB with higher board density. MOR and MOE of particleboard were observed to increase with increase level of particle size while IB was unaffected. Water absorption and thickness swelling value decrease with smaller particle size.