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
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PROPERTIES OF PARTICLEBOARD FROM OIL PALM (*Elaeis guineensis*)

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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/m^3. 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.