

**MECHANICAL AND PHYSICAL PROPERTIES OF PARTICLEBOARD
MADE FROM *Acacia mangium species***

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ABSTRACT

This research was carried out to investigate the effect of density and resin content on mechanical physical properties of particleboard from *Acacia mangium species*. The Acacia tree was harvested at UiTM Jengka forest. 18 boards were pressed at three different target density which were 500 kg/m³, 600 kg/m³ and 700 kg/m³. The resin content for three different types of density of board were 8%, 10% and 12% and urea formaldehyde resin (UF) was the resin used. The press condition of board using UF resin was 180⁰C for duration of 6 minutes. The mechanical properties in static bending for modulus of rupture (MOR) and modulus of elastic (MOE), tensile perpendicular to board surface (IB) were also determined. In addition, dimensional stabilities on board were also determined after 24 hour water immersion. The results have indicated that the effect of density and resin content play important roles in determining the mechanical and physical properties of particleboard.