

**PROPERTIES OF PARTICLEBOARD FROM ACACIA SPECIES
USING DIFFERENT RESIN CONTENT AND BOARD DENSITY**

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ABSTRACT

Properties of Particleboard from Acacia Species Using Different Resin Content and Board Density

Particleboard was produced from Acacia species using different resin content (7%, 9% and 11%) and board density ($500\text{kg}/\text{m}^3$, $600\text{kg}/\text{m}^3$ and $700\text{ kg}/\text{m}^3$). The particleboard was assessed for the mechanical properties (bending and internal bonding) and physical properties (thickness swelling and water absorption) in accordance with the Malaysia Standard 1036: 2006. Mechanical properties revealed that board with higher density, $700\text{ kg}/\text{m}^3$ and higher resin content, 11% shows the highest value of MOR (22.08MPa), MOE (3266.47MPa) and IB (0.51MPa). While, for the physical properties, board with density, $700\text{ kg}/\text{m}^3$ and hresin content of 11% had the best TS (9.82%) and WA (57.33%). Hence, particleboard from acacia with highest board density and resin content has a potential as an alternative raw material to produce particleboard and other panel product for furniture industry.