PROPERTIES OF PARTICLEBOARD FROM *acacia mangium* AND RICE HUSKS

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ABSTRACT

MECHANICAL AND PHYSICAL PROPERTIES OF PARTICLEBOARD USING ACACIA MANGIUM AND RICE HUSKS

This research was carried out to investigate the effect of materials and resin content on mechanical and physical properties of particleboard from *Acacia mangium* species. The *acacia* tree was harvested at Uitm Jengka forest and rice husks were collected from Besut, Terengganu. 18 boards were pressed at three different types of materials which were *Acacia mangium* , rice husks, and mix *acacia* with rice husks. The resin contents for three different types of materials of board were 8 %, 10 % & 12% and urea formaldehyde resin (UF) was the resin used. The press condition of board using UF resin was 165° C 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 hours water immersion. The results have indicated that the effect of materials and resin content play important roles in determining the mechanical and physical properties of particleboard. In the end, 12% of resin contents was the best amount of resin and Acacia mangium were the suitable for particleboard.