

**PROPERTIES OF HYBRID PARTICLEBOARD FROM
KELEMPAYAN AND RICE HUSK USING UREA
FORMALDEHYDE**

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CANDIDATE'S DECLARATION

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ABSTRACT

PROPERTIES OF HYBRID PARTICLEBOARD FROM KELEMPAYAN AND RICE HUSK USING UREA FORMALDEHYDE

This study focus on alternative species to produce particleboard with target density of 700 kgm^{-2} . Kelempayan wood (*Neolamarkia cadamba*) was mixed with rice husk to investigate properties of particleboard. The objectives of this study to determine the mechanical and physical properties of hybrid particleboard made from a mixture of *Neolamarckia cadamba* and rice husk. The study was also to evaluate the effect of particle ratio and resin content on particleboard properties. The particle ratio between species is Kelempayan : Rice husk 50:50, 70:30 and 90:10. The percentage of resin content is 8%,10% and 12%. The Modulus of Rupture (MOR) and Modulus of Elasticity (MOE), Internal bonding and Thickness swelling of particleboard was determined according to British Standard Institution (BS EN Standard). Based on the study conducted, Kelempayan and Rice husk are considered suitable to be used as substitute raw materials for particleboard manufacture. However, it is recommended that more study with broader scope should be conducted on particleboard are necessary for both researchers and manufacturers to planning and constructing the better performance particleboard mills in Malaysia.