

**PROPERTIES OF HYBRID PARTICLEBOARD MADE FROM  
ADMIXTURE MATERIAL OF KELEMPAYAN, DURIAN HUSK AND  
OIL PALM FROND IN RELATION TO DIFFERENT RESIN CONTENT**

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## **ABSTRACT**

### **PROPERTIES OF HYBRID PARTICLEBOARD MADE FROM ADMIXTURE MATERIAL OF KELEMPAYAN, DURIAN HUSK AND OIL PALM FROND IN RELATION TO DIFFERENT RESIN CONTENT**

This study was conducted to determine the mechanical and physical particleboard properties of admixture material particleboard made from Kelempayan sp., oil palm frond and durian husk and its effect with using different ratio of resin content which are 8%, 10% and 12%. The proportions used of admixture particleboard for oil palm frond and durian husk to Kelempayan sp. were 30:70 in each board. Particle board with final thickness 12mm and  $600\text{kg/m}^3$  targeted density were produced by using Phenol Formaldehyde (PF) as a binder under specific pressure temperature and pressure. The tests that were carried out to determine the particleboard properties were modulus of rupture (MOR), modulus of elasticity (MOE), internal bonding (IB) and thickness swelling (TS). The tests were evaluated based on Malaysian Standard (MS) 1036:2006. The results revealed that the strength of mechanical properties was the best with the highest resin content used which was 12%. Besides, for the physical properties, board made from 12% of resin content also showed the lowest percentage of TS. In comparison, particleboard made from admixture of Kelempayan with OPF showed the best result for both physical and mechanical properties.