

**PROPERTIES OF PARTICLEBOARD FROM PETAI  
BELALANG AND KELEMPAYAN**

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## **ABSTRACT**

### **PROPERTIES OF PARTICLEBOARD FROM PETAI BELALANG AND KELEMPAYAN**

This experiment focuses on alternative raw materials of Petai belalang and Kelempayan wood in order to complement rubberwood to manufactured particleboard. The homogeneous particleboard with density  $650\text{kg/m}^3$  had been mixed with three kind of resin content; 7%, 9% and 11% respectively. The ratio of the Petai belalang and Kelempayan is divide into three categories; 100% of Petai belalang, (50:50) Petai belalang mixed with Kelempayan and 100% of Kelempayan. The particleboard that had been made were test according to EN Standard for modulus of rupture (MOR), modulud of elasticity (MOE), internal bonding (IB), thickness swelling (TS) and water absorption (WA). According to the result, for the mechanical properties which are MOR and IB was passed the standard with the higher value is 13.30MPa and 2.25MPa respectively. For physical properties, the board contain 11% resin content shows the lowest thickness swelling. It shows that, higher resin content has lower thickness. By increasing the resin content, the mechanical properties of the particleboard improved, and the dimensional stability of particleboard improved partially.