

**THE PROPERTIES OF PARTICLE BOARD FROM OIL  
PALM FROND**

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**JULY 2016**

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## **ABSTRACT**

### **The Properties of Particleboard from Oil Palm Frond**

This study aims to determining the properties of particleboard made from oil palm frond (OPF). In references to the standard of EN 312-3:1996 the dependent variables used in this study were resin content of phenol formaldehyde (PF) and temperature of hot press. The resin content of PF in this study was 3% and 5%. Meanwhile, the temperatures of hot press machine were 140<sup>0</sup>C, 160<sup>0</sup>C and 180<sup>0</sup>C. The study aim to correlate the effects of resin content and press temperature on board properties. In this study, no catalyst was added due to PF properties that is easy to cure used for making a particle board. The tests carried out were bending test (MOR and MOE), internal bonding test, water absorption test and thickness swelling test. The result obtained shows that higher percent of resin content of PF gives higher bending strength. The different temperature gives high significant value of internal bonding test, water absorption test and thickness swelling test. The study has proven that resin content and temperature of hot press can affect to the board properties.