

**THE PHYSICAL AND MECHANICAL PROPERTIES OF CEMENT  
BONDED PARTICLE BOARD FROM OIL PALM TRUNK**

**MOHD ALIF BIN MOHD GHAZALI**

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## ABSTRACT

### **PHYSICAL AND MECHANICAL PROPERTIES OF CEMENT-BONDED PARTICLE BOARD FROM OIL PULM TRUNK BY DIFFERENT RATIO OF PARTICLE**

The effect of physical and mechanical properties by different ratio of particle for production of CBP from OPT has been studied. The ratio of particle has prepared for 1:2.50, 1:2.75, and 1:3.00. However, the percentage chemical material used in the mixture of CBP is constant which is 1% sulphate alumina  $Al_2(SO_4)_3$  and Sodium silicate ( $Na_2SiO_3$ ). The CBP has density  $1300kg/m^3$  and dimension 450mm X 450mm will cure 1month at the temperature surrounding before the sample has been tested. The process testing sample has dimension 100mm X 100mm for TS and WA, 180mm X 100mm for MOE and MOR, and 40mm X 40mm for IB. The result indicates that the physical and mechanical properties increased when the particle ratio decreased. The strongest CBP for this research is at the ratio 1:3.00 which mean the increasing amount of cement in mixture of CBP will increase the strength of CBP before reaching the optimum mixture.