

**THE EFFECT OF COLD WATER TREATMENT OF OIL PALM
TRUNK (OPT) AND OPT CEMENT RATIO ON THE PROPERTIES
OF CEMENT BOARD**

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ABSTRACT

THE EFFECT OF COLD WATER TREATMENT OF OIL PALM TRUNK (OPT) AND OPT CEMENT RATIO ON THE PROPERTIES OF CEMENT BOARD

An experimental investigation was performed to determine the properties of cement board made from Oil Palm Trunk (OPT). The cold treatment and difference OPT/cement ratio (1:2.5, 1:2.75 and 1:3.0) was applied. The target board density was set at 1300 kg m^{-3} . The mechanical (bending test and internal bonding test) and physical (water absorption test and thickness swelling test) properties of the cement board were evaluated. From this study, it showed that there is no significant different on the physical and mechanical properties of cement board when using cold water treatment. The result for internal bonding (IB), water absorption (WA) and thickness swelling (TS) meet the requirement standard of MS544:2001. The application of different OPT/cement ratio showed there is significant different on the mechanical properties except for modulus of elasticity (MOE). OPT/cement ratio 1:3.0 gave better modulus of rupture (MOR) if compared to 1:2.5 and 1:2.75. Generally, higher cement content causes a decrease in MOR, WA and TS values but modulus of elasticity (MOE) values to increase.