

**PROPERTIES OF COMPOSITE BOARD FROM DRIED LEAVES IN UITM PAHANG
CAMPUS**

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CANDIDATE'S DECLARATION

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ABSTRACT

Properties of Composite Board from Dried Leaves in UiTM Pahang Campus

The usage of dried leaves collected in UiTM Pahang, Jengka Campus, for insulation board applications was conducted. The leaves were divided into two forms which were original form and crushed form and board density of 450kg/m^3 were produced. The effect of phenol formaldehyde (PF) resin content at 8%, 10% and 12% on the physical, mechanical and thermal properties of the board was evaluated. Crushed leaves performed better than original leaves due to more surface contact area derived in smaller particle leaves but it has lower resistance due to higher thermal conductivity (TC). Higher resin percentage produced greater strength for board mechanical testing such as bending strength modulus of elasticity (MOE), modulus of ruptured (MOR) and internal bonding (IB). The insulation board physical testing i.e. thickness swelling (TS) and water absorption (WA) also showed positive effect with the increasing percentage from 8%, 10% and 12% of PF resin usage. Regardless the forms of the leaves used, thermal conductivity showed that the board has high potential to be used as insulation board.

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