INFLUENCE OF PARTICLE SIZES IN HOMOGENOUS AND HETEROGENEOUS WOOD CEMENT BOARD PROPERTIES MADE FROM *Acacia mangium*

BY

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ABSTRACT

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Wood-cement board (WCB) is a panel product that has the advantages of inorganic and organic materials. However, the main problems affecting the manufacture and use of WCB are the inhibitory effects of wood on the setting of cement and the high specific gravity of the final product. This paper examines the potential and the use of particle sizes used and board layer that was use to facilitate the production of a WCB from *Acacia mangium*. Wood cement boards (WCB) were manufactured with wood/cement (w/w) ratio of 1:3, target density is 1300kg m^{-3} and $Al_2(SO_4)_3$ and Na_2SiO_3 content as chemical additives is 3.0%. Besides that, WCB also manufactured with the layer (homogenous and heterogeneous). The WCB were tested for static bending (MOR and MOE) properties in parallel and perpendicular directions; internal bond (IB), thickness swelling (TS) and water absorption (WA).

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