

PROPERTIES ON CEILING BOARD OF RICE HUSK (*Oryza sativa*)

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ABSTRACT

PROPERTIES ON CEILING BOARD OF RICE HUSK (*Oryza sativa*)

This study investigated the effect of resin content and density on the mechanical properties and physical properties of ceiling board made of rice husk particles. Phenolformaldehyde (PF) resin were used in the experiments at three different contents which were 7, 9 and 11%. In the mechanical properties of the samples was significantly improved by increasing the resin content. When the content of PF resin increased from 7% to 11%, the MOE, MOR and IB values of the samples increasing (2001.81MPa to 2369.98MPa;MOE), (10.58MPa to 17.75MPa;MOR) and (0.04MPa to 0.09MPa;IB), respectively. In the physical properties of the samples was significantly improved by increasing the resin content. When the content of PF resin increased from 7 to 11%, the WA values of the samples decreased to 88.24% and 71.08%, respectively. Similar results were also observed for the TS values decreased to 66.24% to 51.21%. Three types of density, 780kg/m³, 980kg/m³ and 1100kg/m³, were used in the experiments. In the mechanical properties of the samples was significantly improved by increasing the density of board. When the density of board increased from 780kg/m³ to 1100kg/m³, the MOE, MOR and IB values of the samples increasing (1268.50MPa to 2831.23MPa;MOE), (6.11MPa to 17.80MPa; MOR) and (0.04MPa to 0.09MPa; IB), respectively. In the physical properties of the samples was significantly improved by increasing the density of board. When the density of board increased from 780kg/m³ to 1100kg/m³, the WA values of the samples decreased to 95.53% to 66.34%, respectively. Similar results were also observed for the TS values decreased to 58.23% to 56.69%