PROPERTIES OF MEDIUM DENSITY FIBERBOARD FROM RUBBERWOOD AND *Leucaena* IN RELATION TO WOOD RATIO AND RESIN CONTENT

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ABSTRACT

Properties of Medium Density Fiberboard (MDF) from Rubberwood and *Leucaena* in Relation to Wood Ratio and Resin Content

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This study used *Leucaena* and rubberwood species as the raw materials in the manufacture of medium density fiberboard (MDF). The objective of this study were to determine the physical and mechanical properties of MDF using *Leucaena* and rubberwood and evaluate the effect of different wood ratios and resin content on board properties. In this study, urea formaldehyde (UF) was used as a binder and target board density was 700 kg/m3. Medium density fiberboard was assessed for the mechanical (bending and internal bonding) and physical (thickness swelling) properties according to European Standard (EN 622-5:2006). Mechanical properties revealed the highest MOR value is 15.09 MPa with resin content of 12% from wood ratios of 80% Rubberwood and 20% *Leucaena*. However, the highest result for MOE is 2005 MPa and IB is 0.7 Mpa is obtain from wood ratios of 20% Rubberwood and 80% *Leucaena* with 12% resin content. For the physical properties wood ratio with 80% Rubberwood and 20% *Leucaena* and 12% resin content had the best TS value with 21.59%. The results revealed that wood ratio shows significant effect on board mechanical properties of MOR, MOE and TS values. However, IB values were not significant.

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