

Mechanical and Physical properties of epoxy resin based hybrid composites reinforced with banana fiber three species

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This research aimed to study mechanical and physical properties of epoxy resin based hybrid composites reinforced with banana fiber three species; Musa X paradisiaca L. (Kluai TEEP: B1) Musa sapientum (Kluai Hin: B2) and Musa sapientum Linn. (Kluai Leb Mu Nang: B3). The mechanical properties of composites were evaluated tensile strength tensile modulus flexural strength flexural modulus and Impact strength. When Physical properties were assessed density and moisture absorption.

The findings of the study showed that the composites reinforced with B2 showed the most values of flexural strength flexural modulus and impact strength had their maximum values of 1.95 MPa 22.00 MPa and 1.42 kJ/m² respectively while moisture absorption the lowest value of 1.32 % because internal bond adhesion between fiber and matrix was well-formed Moreover, there was decrease of a void between the fiber and matrix, which increase the mechanical properties of the composite. For the tensile strength tensile modulus and density had the highest value of 16.41 MPa 354.33 MPa and 3.37 kg/m³ were of the composites reinforced with B1. Statistical analysis using One-way ANOVA has showed that there were significant of results obtained from tensile modulus impact strength and moisture absorption ($p < .05$).

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