

Mechanical and physical properties of Water Hyacinth and Cogon Grass Fiber Reinforced Epoxy Resin Composites

Abstract. In this research, the study to investigate and compare the physical and mechanical properties of water hyacinth and cogon grass fiber reinforced epoxy resin composites. The composites were fabricated by hand lay-up process. The effect of investigation was analyzed via water absorption, microstructure, tensile properties, flexural properties and impact strength tests for total fiber contents, 15 wt% and different water hyacinth- cogon grass fiber ratios (10/0, 8/2, 6/4, 4/6, 2/8 and 0/10). The results showed that the addition of water hyacinth and cogon grass fiber in epoxy, improves tensile properties, flexural properties and impact properties, but decrease water absorption. The analysis of the microstructure found that surface fracture behavior and void between the fiber and matrix of the composites using scanning electron microscope (SEM).

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