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Comparative Investigation on Physical and Mechanical Properties of Water hyacinth and Cattail fiber Reinforced epoxy Hybrid Composites

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In this research, the study to investigate and compare the physical and mechanical properties of water hyacinth and cattail fiber reinforced epoxy hybrid composites.

The composites were fabricated by hand lay-up process. The effect of investigation was analyzed via density, moisture absorption, microstructure, tensile strength, flexural strength and impact strength tests for total fiber contents, 15 wt% and different water hyacinth-cattail 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 cattail fiber in epoxy, improves density, tensile strength, flexural strength and impact strength, but decrease moisture 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.

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