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DEVELOPMENT AND ANALYSIS OF TREATED AND UNTREATED NATURAL BANANA FIBER COMPOSITE

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ABSTRACT

The natural fiber composite materials are nowadays playing a vital role in replacing the conventional and synthetic materials for industrial applications. This present work evaluated the effect of fiber orientation on mechanical properties of banana fiber /epoxy composites. In this work banana fiber is used as reinforcement and epoxy is used as matrix material. Samples of different orientations of banana fiber reinforced composites were fabricated by Hand lay-up technique and investigated their mechanical properties like tensile strength and flexural Strength. In this work, the untreated and treated fibers are arranged in alternative layers like single and double layer. The mechanical properties of the composite are determined by testing the samples for tensile and flexural strength. It is observed that the tensile strength of the composite material is dependent on the strength of the natural fiber and also on the interfacial adhesion between the reinforcement and the matrix. From the current experiments results, it has been observed that fiber loading and length has major effect on the mechanical properties of the composites like as tensile strength, flexural strength.

Keywords: Natural fiber composite, Banana fiber, Tensile strength, Flexural strength.

