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EXPERIMENTAL INVESTIGATION ON THE MECHANICAL PROPERTIES OF AMERICAN AGAVE AND GLASS FIBER REINFORCED POLYPROPYLENE COMPOSITES

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Abstract

The utilization natural fibers have become extensive instead of conventional synthetic fibers because of the issues with greenhouse effect and consciousness towards the environment. Exploring natural fibers has several advantages such as, economically viable, availability in fibrous formreadily andease of extraction from the plant leaves. In this work, an attempt has been made to study the mechanical properties such as tensile, impact and flexural strengthof the composites made by reinforcing American Agave fibre into a polypropylene resin. In addition to that, the mechanical properties of the hybrid composites made by reinforcing American Agave and Glass fibre as 1:1 ratio into a polypropylene resin are studied. The proportion of fibre content in the composite is varied from 10 to 30 by volume percentage and the variation of mechanical properties in each case isexamined. It is observed that the American Agave and Glass fibre reinforced polypropylene hybrid composite exhibited better mechanical properties than American Agave fibre reinforced polypropylene composite.

***Keywords*:** American Agave Fibre, Polypropylene, Mechanical Properties