**Mechanical Properties of Treated Kenaf Green Composite**

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*Abstract:* Recently, natural fibre has gained much interest especially in the production of biocomposites materials due to the promising strength properties, eco-friendly and low cost of natural fibre. In addition, a biodegradable polymer such as polylactic acid (PLA) has been widely used as an alternative for the conventional polymer that rely on non- sustainable sources. In this study, Kenaf core fibres were used as reinforcement in PLA composites. The fibres have undergone chemi-mechanical treatment at different concentrations before mixing with PLA. Fibres were treated with sodium hydroxide solution and then followed by hydrochloric acid treatment at a different concentration which was 0.5 M, 1.0 M and 1.5 M. Freezer mill was used to reduce the treated fibre size prior to mixing with PLA. Kenaf core PLA composite (KCC) was fabricated using extrusion and compression moulding methods. The mechanical properties of KCC such as flexural and impact properties were investigated. As a result, KCC at 1.0 M treatment concentration had the highest flexural modulus and strength as well as impact properties. 1.0 M treatment shows 47% and 190% improvement from untreated KCC for flexural and impact strength respectively. The finding from the current study indicates that the 1.0 M hydrochloric acid treatment is the optimum concentration to resulted in the optimum properties of the KCC.

*Keywords: Kenaf core, polylactic acid, flexural properties, impact properties.*