

## Effect of Kenaf Fibres on Starch-Grafted-Polypropylene Biopolymer Properties

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**Abstract :** Kenaf fibres, with two aspect ratios, were melt compounded with two types of biopolymers named starch grafted polypropylene, and then blends compression molded to form plates of 1 mm thick. Results showed that processing induced variation of fibres length which is quantified by optical microscopy observations. Young modulus, stress at break and impact resistance values of starch-grafted-polypropylenes were remarkably improved by kenaf fibres for both matrixes and demonstrated best values when G906PJ were used as matrix. These results attest the good interfacial bonding between the matrix and fibres even in the absence of any interfacial modification. Vicat Softening Point and storage modules were also improved due to the reinforcing effect of fibres. Moreover, short-term tensile creep tests have proven that kenaf fibres remarkably improve the creep stability of composites. The creep behavior of the investigated materials was successfully modeled by the four parameters Burgers model.

**Keywords :** creep behaviour, kenaf fibres, mechanical properties, starch-grafted-polypropylene

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