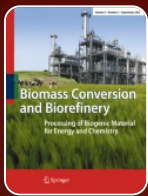


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Synergistic effect on the mechanical, thermal, and tribology characteristics of modified natural fibre composites with perforated waste PET

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Abstract

The present study investigates mechanical, thermal, and tribological characteristics with the influence of novel composite material of perforated polyethylene terephthalate (PET) polymer, distinct natural fibre, and vinyl ester matrix produced by compression moulding technology. The primary objective of this study is to identify and influence the strength of vinyl ester resin bonding features of three distinct natural fibre sources: banyan, snake grass, and pineapple with recycled PET plastic bottles polymer composites. The natural fibre is undergoing chemical treatments using NaOH (7% alkali) in order to remove the impurities and enhance the strength of the composite material. The mechanical