

Mechanical properties of natural fibre reinforced PVC composites : a review

Abstract

Poly (vinyl chloride), which is commonly abbreviated as PVC, is widely used due to it being inexpensive, durable, and flexible. As a hard thermoplastic, PVC is used in the applications such as in building materials pipe and plumbing. The factors that should be considered in using PVC is safety and environmental issues. Mixing PVC with natural fibres is an interesting alternative. The main challenge in the research on natural fibre/polymer composites is the poor compatibility between the fibres and the matrix because this will affect their bonding strength. During the mixing with PVC, some natural fibres may acts as reinforcing materials while other natural fibres only act as filler, which contribute less to mechanical strength improvement. However, generally natural fibres also give positive outcome to the stiffness of the composites while decreasing the density.

Keyword: Composites; Natural fibre; Poly (vinyl chloride)