

Development of green insulation boards from kenaf fibres part 1: development and characterization of mechanical properties

ABSTRACT

The purpose of this study was to develop effective green insulation boards fabricated from polyurethane (PU) reinforced with Kenaf fibres. Biocomposites having three different weight contents (40/60, 50/50 and 60/40 Kenaf / PU weight %) were manufactured. A fourth type was made from 60/40 NaOH-treated Kenaf / PU weight %. The results show that the elastic properties increased with Kenaf fibre content. The optimal performance was observed at a weight of 50% Kenaf fibres. In addition, kenaf fibres treated with NaOH exhibited significantly improved mechanical properties.

Keyword: Biocomposites; Natural materials; Polyurethane