

Development of green insulation boards from kenaf fibres and polyurethane

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. Furthermore, the minimum water absorption percentage, thickness swelling, and changing in volume were recorded at a weight of 50% kenaf fibres.

Keyword: Biocomposites; Natural materials; Polyurethane