

## **Water absorption and tensile properties of soil buried kenaf fibre reinforced unsaturated polyester composites (KFRUPC).**

### **ABSTRACT**

The growing of global environmental concern, high rate of depletion of petroleum resources, as well as new environmental regulations have forced the search for new fibre reinforced composite materials that are compatible with the environment. Biodegradable composite has been the driving force of the use of bio-composites consisting of biodegradable plastics and natural fibres. However, in this study, only the latter is considered. Composite made of long kenaf fibres alkalized with 6% NaOH solution and unsaturated polyester resin is investigated in this study by means of soil burial for 4 months. The tensile properties of the composites such as tensile strength and modulus were determined. The percentage of moisture uptake increased as the weight percentage of fibre content increased due to the high cellulose content. The tensile properties of KFRUPC specimens were found to decrease with increase in percentage moisture uptake. The water absorption pattern of these composites at soil buried was found to follow Fickian behavior

**Keyword:** Kenaf; Mechanical properties; Natural fibre; Unsaturated polyester.