

## Mechanical Properties of Kenaf Reinforced Composite with Different Fiber Orientation

**Authors :** Y. C. Ching, K. H. Chong

**Abstract :** The increasing of environmental awareness has led to grow interest in the expansion of materials with eco-friendly attributes. In this study, a 3 ply sandwich layer of kenaf fiber reinforced unsaturated polyester with various fiber orientations was developed. The effect of the fiber orientation on mechanical and thermal stability properties of polyester was studied. Unsaturated polyester as a face sheets and kenaf fibers as a core was fabricated with combination of hand lay-up process and cold compression method. Tested result parameters like tensile, flexural, impact strength, melting point, and crystallization point were compared and recorded based on different fiber orientation. The failure mechanism and property changes associated with directional change of fiber to polyester composite were discussed.

**Keywords :** kenaf fiber, polyester, tensile, thermal stability

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