

EFFECT OF FIBER ADDITION ON MECHANICAL PROPERTIES OF CONTINUOUS MIRITI FIBERS REINFORCED POLYMER COMPOSITES

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Abstract

In this study the effect of the addition of miriti fibers on an unsaturated polyester matrix on volume fraction up to 30% was investigated. The miriti fibers are extracted from *Mauritia flexuosa* L. palm, and were treated with a NaOH aqueous solution (5%), in order to improve the interfacial adhesion between fiber-polymer. The composites were consolidated in a steel mold under pressure for 24 h, and post-cured in an oven at 60°C for also 24 hours. The TGA analysis were conducted to evaluate the thermal behavior of the composites with fibers addition. Tensile tests were carried out on unidirectional fiber composites and the results indicated an increase in elastic modulus comparing with UP matrix. The SEM micrographs were used to show the fiber/matrix interfacial adhesion for composites after the fracture under tension.

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