

Improvement of Mechanical Properties of Rattan Fiber-reinforced/Carbon Nanotube/Epoxy Resin Composites by Alkaline Treatment Method

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In this work, mechanical properties of short rattan fiber (*Calamus sp.7* of in San Pa Koi, Chiang Mai) approximately length 1.0 cm –Carbon Nanotube reinforced epoxy resin composites were investigated. Rattan fibers were treated in Sodium Hydroxide in different concentration and soaking time. To improve the ability of adhesion compare with non-soaked rattan fibers and destroy external surface, which is coated with waxy substances. Then, compare with different ratio of soaked and non-soaked fiber (5%, 10% and 15% v/v) for reinforced suitable. Moreover mix different ratio of the fibers and Carbon Nanotube and epoxy resin composites for testing mechanical properties, such as impact, stress etc. and the result are showed the impact and stress properties of soaked Rattan Fiber-reinforced/Carbon Nanotube/epoxy resin composited more stronger than soaked and non-soaked Rattan Fiber-reinforced epoxy resin composited and good agreement with SEM characterizations.

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