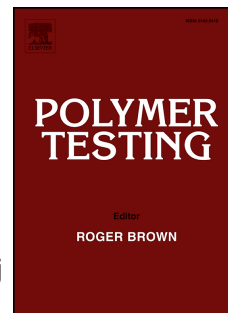


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**Exploring the synergistic effect of short jute fiber and nanoclay on the mechanical, dynamic mechanical and thermal properties of natural rubber composites**

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#### ABSTRACT

Natural rubber (NR) composites were reinforced by suitable hybrid fillers system containing short jute fiber and stearic acid modified nano clay. The synergistic effect of short jute fiber and stearic acid modified nanoclay in NR composites was systematically evaluated in the light of cure, mechanical, morphological, dynamic mechanical and thermal properties. Synergistic interaction between short jute fiber and modified nanoclay increased the value of cure rate index (CRI) and tensile strength of NR composites successfully. Scanning electron microscopy (SEM) analysis indicated a continuous and smooth surface for the NR composites containing hybrid fillers system. Dynamic mechanical analysis (DMA) confirmed excellent improvement in the

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