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Effect of Chemical Treatment on Mechanical Properties of Jute Reinforced Composites

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Abstract

Jute is a natural fiber that contains around 65% of cellulose. It is the perfect material for reinforcing polymers since it is robust and long-lasting. Jute-reinforced polymer-based matrices with high strength and stiffness are lightweight and easy to manufacture. The poor affinity of the reinforcing fibers with the matrix is the primary drawback of jute fiber-reinforced composites. In order to achieve a desired mechanical property, the jute fiber must be well adhered to the matrix. Numerous research has been carried out to understand the effect of chemical treatment on the mechanical properties of jute-reinforced biocomposites, but all the processes have been carried out at different time intervals. This study has been carried out to understand the effect of chemical treatment on the mechanical properties of jute-reinforced composites. Here four different chemical treatments have been used for a fixed duration of two hours and their effect on mechanical properties has been investigated.

Keywords
Jute, Composite Material, Surface Treatment and Mechanical Property.

Biographies

Taufiq Ahmed Sady is an undergraduate student of the Mechanical Engineering (ME) of Mechanical and Production Engineering department at the Ahsanullah University of Science and Technology (AUST). His research interests include the area of composite material, material science, and renewable energy, aerodynamics, advanced manufacturing process. He has experienced different methods for making composite material, design and analysis of renewable energy based power plants.

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