A REVIEW ON MECHANICAL BEHAVIOR OF CELLULOSE AND NANOCELLULOSE COMPOSITES

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ABSTRACT

There are accelerating interests in the use of cellulose fiber-reinforced polymer composite materials in the past decades due to their great abundance, affordable cost, and their light-weight, recyclable and biodegradable characteristics. The research on nanocellulose composites with polymers has also made significant contributions to the development of functional and sustainable materials. This chapter attempts to provide a summary on the mechanical properties and behavior of cellulose fibers, nanocellulose, and the cellulose and nanocellulose composites. Additionally, the challenges associated with cellulose and nanocellulose based composites with and without surface modifications are discussed.

Keywords: cellulose, nanocellulose, composites, biocomposite, nanocomposite

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