Effect of Carbon Nanotubes on Nanocomposite from Nanofibrillated Cellulose

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Abstract : There is an increasing interest in the development of flexible energy storage for application of Carbon Nanotubes and nanofibrillated cellulose (NFC). In this study, nanocomposite is consisting of Carbon Nanotube (CNT) mixed with suspension of nanofibrillated cellulose (NFC) from Oil Palm Empty Fruit Bunch (OPEFB). The use of Carbon Nanotube (CNT) as additive nanocomposite was improved the conductivity and mechanical properties of nanocomposite from nanofibrillated cellulose (NFC). The nanocomposite were characterized for electrical conductivity and mechanical properties in uniaxial tension, which were tensile to measure the bond of fibers in nanocomposite. The processing route is environmental friendly which leads to well-mixed structures and good results as well.

Keywords : carbon nanotube (CNT), nanofibrillated cellulose (NFC), mechanical properties, electrical conductivity

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