

Fabrication of Nanocomposites based PP/Lignin/Natural Fiber/MMT

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In this work, a novel PP/lignin/natural fiber/MMT nanocomposites were prepared in a twin-screw extruder at fixed natural contents of 25 wt% and 0-7% wt% MMT. The feasibility of using lignin and lignin based copolyester as matrix or compatibilizer in wood plastic nanocomposites was studied. Since lignin contains polar (hydroxyl) groups and nonpolar hydrocarbon, it was expected to be able to improve the compatibility between components of the nanocomposites. The properties of the specimens have been studied by the thermogravimetry (TGA), tensile tests and izod impact tests. The effects of both the lignin based copolyester and the filler particles on tensile properties and izod impact strength were investigated.