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ABSTRACT

The short-time creep behavior at tensile and single cantilever mode of deformation for a series of biodegradable composites was thoroughly studied. The composites were based on a biodegradable polymer matrix consisted a blend of poly(butylene adipate-terephthalate) (PBAT) copolyester, produced by non-renewable resources, and Polylactic acid (PLA). The matrix was reinforced with three different wood fiber types, at 20 and 30wt%. The experimental data were analyzed in terms of Findley's and Burger's viscoelastic models. The effect of stress and temperature and wood fiber type on the material's creep response was analytically studied, while the Burger's model parameters were related to the composites morphology. In all cases, the wood fibers improved the creep resistance of the composites.

Keywords: A. Polymer Matrix Composites (PMCs); A.Wood; B.Creep; C.Analytical Modeling;

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