

Abstract

Synthetic polymers are important industrial materials, but their everyday use is hazardous to the environment. The solution to this seems to lie in modification of their structure through blending with biopolymers. Low density polyethylene (LDPE) and Cellulose were used in sample preparation for research in this work. LDPE/starch composites have undesirable properties and so there was need to explore LDPE/cellulose composites and evaluate their susceptibility to primary biodegradation. Compression molded composites were subjected to primary degradation in *Aspergillus niger* culture for 60 days. Creep measurements were performed at 30, 40, 50 and 60 oC. The sample was displaced for 12 minutes and allowed to recover for another 12 minutes. Creep performance of the samples improved with cellulose loading. Time temperature superposition was used to predict the long time (up to 106 s) creep behavior of the samples. William-Landel Ferry model was obeyed by the shift factors, so, the deformation was dependent on free volume. Creep performance of the samples deteriorated on inoculation.