

Recycled high density polyethylene / natural rubber / chicken feather fibers (RHDPE/NR/CFF) composites: The effects of fiber loading and benzyl urea on tensile

Abstract

The effects of benzyl urea into RHDPE/NR/CFF composites with different fibers loading were studied. The composites were prepared using BrabenderPlasticorder at 160 °C with rotor speed of 50rpm. The composites were characterized in respect of their tensile properties and morphology. The results indicated that RHDPE/NR/CFF with benzyl urea composites show higher values of tensile strength, Youngs modulus, but lower elongation at break than RHDPE/NR/CFF composites. RHDPE/NR/CFF with benzyl urea composites gave a better interfacial adhesion between the matrix and the fiber than RHDPE/NR/CFF composites as evidence using SEM.

Keywords; Benzyl Urea, Chicken Feather, Natural Rubber (NR), Recycled High Density Polyethylene