

Tensile and morphological properties of low density polyethylene/spear grass composites

Abstract

The spear grass content on the tensile properties, morphology of low-density polyethylene (LDPE)/spear grass was investigated. The compatibilising effect of epoxidised natural rubber (ENR 50) LDPE and spear grass was mixed by using twin screw extruder with various spear grass contents. The tensile properties were tested by using an Universal Testing Machine (UTM). The tensile strength and elongation at the break point were significantly improved by the addition of ENR 50, as evidenced by morphological analysis using scanning electron microscopy (SEM). On the other hand, the tensile modulus increased with spear grass content up to 10% and decreased thereafter.

Keywords; Epoxidised Natural rubber (ENR), Low Density Polyethylene (LDPE), Spear Grass, Tensile Properties