

Effect of Blends Ratio on Mechanical and Morphological Properties of LDPE/Thermoplastic Soya Spent Powder Blends

Abstract

This study investigates the properties of blends made from low density polyethylene (LDPE) with various levels of thermoplastic soya spent powder (SSP). The thermoplastic TPSSP content was varied from 5 to 20wt % whereas epoxidised natural rubber with 50 mol % (ENR 50) act as compatibilizer to improve the interfacial adhesion between low density polyethylene and thermoplastic TPSSP. The effect of the addition of ENR 50 on the LDPE/thermoplastic TPSSP was measured by using tensile test and thermal behaviour. The tensile strength and elongation at break (E_b) decreased with increasing TPSSP content. However, the addition of ENR 50 resulted in the increment of tensile strength and E_b LDPE/TPSSP blends.

Keywords; ENR 50, Low Density Polyethylene (LDPE), Thermoplastic Soya Spent Powder