Advanced Materials Research, vol.844, 2014, pages 338-341

The influence of CB, silica and $CaCO_3$ on tensile and morphological properties of vPE/rPE/EPDM blends

Abstract

The virgin polyethylene (vPE) and recycled polyethylene (rPE) was melt blended with ethylene propylene diene terpolymer (EPDM) in different ratio by using a Haake Rheomix at 180°C and 50 rpm were prepared. The characterization such as tensile properties and morphology were examined. Results indicated that, the tensile strength and youngs modulus of vPE/rPE/EPDM with CB show the highest value compared to silica and $CaCO_3$ except for elongation at break. The scanning electron microscopy (SEM) studies proved that, better dispersion and less agglomeration of CB and silica filled particles as compared to the $CaCO_3$.

Keywords; Morphology, rPE, Tensile Property, vPE