

Tensile strength and Elastic Modulus of Nanocomposites Based on Polypropylene/Linear Low Density Polyethylene/Titanium Dioxide Nanoparticles

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Abstract : In this study, tensile strength and elastic modulus of nanocomposites based on polypropylene/ linear low density polyethylene/ nano titanium dioxide (PP/LLDPE/TiO₂) were studied. The samples were produced using a co-rotating twin screw extruder including 0, 2, 4 Wt .% of nano particles, and 20, 40, 60 Wt.% of LLDPE. The styrene-ethylene-butylene-styrene (SEBS) was used as comptabiliser. Tensile strength and elastic modulus were evaluated. The results showed that modulus was increased by 7% with addition of nano particles in comparison to PP/LLDPE. In addition, tensile strength was decreased.

Keywords : PP/LLDPE/TiO₂, nanocomposites, elastic modulus, tensile strength

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