

The present work aims to the valorization of regenerated low density polyethylene (LDPE) by blending with small quantities of ethylene-propylene-diene monomer (EPDM). Three types of regenerated LDPE (rLDPE) from different waste sources (greenhouses, milk pouches,...) were characterized in terms of physico-chemical (density, melt flow index, water absorption, melting temperature and structure by Fourier transform infrared (FTIR) spectroscopy) and mechanical properties (tensile properties and hardness). The optimization of the peroxide content required for the crosslinking of the LDPE/EPDM blends was due by measuring torque and tensile strength. Once the peroxide content was optimized, different blends were obtained by varying the EPDM content. Then they were characterized physically (density, water absorption) and mechanically (tensile properties and hardness). Finally, the blends behavior under the conjugated effect of heat and water was determined at 70 C for 7 days. The obtained results showed that this kind of blending has contributed in improving the performance of regenerated LDPE