

The Effect of Ionomer Addition on the Fracture Toughness in the PP/EPDM Blend

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The effect of ionomer addition on the fracture toughness of the EPDM and PP blend was investigated. The ternary blends consisting of EPDM, PP and ionomer were prepared in a laboratory internal mixer. The composition of EPDM and PP was fixed at 50/50 by weight. The fracture toughness was investigated in terms of J_c -integral by measuring fracture energy via the locus method. The fracture toughness of the linear EPDM/PP/ionomer ternary blends were affected by the cation types(Na^+ or Zn^{++}) and contents(5-20 wt%) of added ionomers. The ternary blend having 5wt% of Na-neutralized ionomer showed better fracture toughness than any other ternary blends. The results were confirmed by the fracture topology by observing the scanning electron microscope(SEM). More detailed results will be discussed later.