Abstract

This study utilized ethylene vinyl acetate (EVA) wastes from sports shoes sole manufacturer and silane coupling agent as impact and flexural modifier of recycled PVC/wood flour composites. Three types of EVA waste are unvulcanized EVA, unvulcanized EVA/PE blend (80/20% wt) and vulcanized EVA foam. The composite samples were prepared by mixing recycled PVC, wood flour and other processing additives such as Calcium carbonate ($CaCO_3$), Chlorinate polyethylene (CPE) and Diocthyl Phatalate (DOP) with varying amounts of EVA wastes (0-30 phr) and silane coupling agent (0-30 phr). The mixture was mixed using two-roll mill followed by compression molding. The effects of type and amount of EVA and silane coupling agent on the impact and flexural properties of the composites were investigated. The experimental results indicated that addition of 10 phr unvulcanized EVA provides the maximum notched impact strength whereas addition of silane coupling agent significantly improves the flexural properties of the composites.