The Influences of Chicken Feather Loading on Tensile and Physical Properties of R-Hdpe/Eva/Cff Composites.

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Abstract

PE/EVA blends are one of the popular existing commercial polymers which catch many attentions among researchers and manufacturing industry. This article is concerned with the mechanical properties, morphology, and functional groups towards recycled high density polyethylene (r-HDPE)/ethylene vinyl acetate (EVA) reinforced with chicken feather fiber (CFF). In this study, the r-HDPE/EVA/CFF composites with varies ratio of chicken feather (2.5, 5.0, 7.5, 10.0, and 12.5 phr) were moulded into compression moulding machine and tested using conventional universal testing machine. Morphology and functional groups properties were characterized using field emission microscope (FESEM) and Fourier transform infrared spectroscopy (FTIR), respectively. The results showed that the tensile and physical properties (water absorption and oven aging) of r-HDPE/EVA/CFF composites were slightly affected by the chicken feather fiber content.