

# **The Effects Of Phthalic Anhydride On R-Hdpe/Eva/Cff Composites: Tensile And Physical Properties.**

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## **Abstract**

Phthalic anhydride is one of the compromise coupling agents that enhance the dispersion and hydrophobicity of fiber which consequently improved the interfacial adhesion of composites. This article is concerned with the mechanical properties, morphology, and functional groups towards recycled high density polyethylene (r-HDPE)/ethylene vinyl acetate (EVA)/chicken feather fiber (CFF)/phthalic anhydride (PAH) composites. In this study, the r-HDPE/EVA/CFF/PAH composites with varies loading of phthalic anhydride (2, 4, 6 and 8 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/PAH composites were slightly affected by the phthalic anhydride loading.