

Changes in the chemical and physical properties of aged WPC with high wood filler

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Abstract: The aim of this study is to examine changes in the Chemical and physical properties of aged wood plastic composites. For production of composites, sawdust as lignocellulosic filler, high density Polyethylene (HDPE) were chosen. Composite granules produced using a twin screw extruder were pressed at the size of 250 mm x 25 mm x 5 mm by hot press with the compression molded technique. Aging test applied to composites samples were prepared in accordance with ASTM standards. The wood plastic composites were subjected to aging test for a total of 720 hours. Measurements made every 240 hours were recorded for the aging test. The chemical (Fourier Transform infrared spectroscopy (FTIR)), physical tests (water uptake, hardness (Shore D)) of HDPE-based composite boards were investigated. It was understood that the aging test had an effect on the chemical and physical properties of the composites.

Keywords: Waste sawdust, Flat press, Wood plastic composites