

**WOOD PLASTIC COMPOSITE USING RICE HUSK AT DIFFERENT
FILLER LOADING**

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CANDIDATE'S DECLARATION

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ABSTRACT

Wood Plastic Composite Using Rice Husk at Different Filler Loading

The properties of wood plastic composite produced from rice husk were ascertained. The effects of different filler loading were determined. The raw materials used in this study were rice husk particle and polypropylene. Polypropylene (PP) was used as a binder and rice husk sawdust as a filler. 5%, 10%, 15%, 30% of sawdust and 95%, 90%, 85%, 70% of polypropylene has been chosen for this study. The objective of the study was to evaluate the effects of the four differences mixture of filler loading with polypropylene on mechanical and physical properties of wood plastic composite. The tests that are carried in this study were bending, tensile, thickness swelling and water absorption. The results obtained showed that the flexural modulus and tensile modulus decrease when the content of sawdust increased. The flexural strength and tensile strength increases when the content of sawdust increased. The flexural strength and tensile strength increased when the content of polypropylene increased. Adding more sawdust in wood plastic composite will result increasing in percentage of water absorption and thickness. So, more polypropylene in wood plastic composite can reduce the water absorption and thickness swelling in wood plastic composite. Water cannot easily absorb in the wood plastic composite. The properties for 15% of sawdust and 85% of polypropylene much better than other filler loading. So, it can used to produce the best quality of wood plastic composite in the future.

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