

## Flexural mechanical characteristic of sawdust and chipwood filled epoxy composites

### ABSTRACT

A study was conducted with the objective of gathering the information through flexural (three-point bending) testing. This research presents the testing results concerning the mechanical properties, modulus of elasticity (MOE) and modulus of rupture (MOR) of natural fiber reinforced composite. Resin were used as a matrix and untreated wood fibres contents 14% by weight as a filler treatment parameters to obtain better compatibility involving wood fibres Sawdust (SW) and Chipwood (CW) and epoxy. The feasibility of processing the composite prepared manually from waste wood and epoxy using open molding was investigated. The tests that have been conducted are in according to ASTM (D790-97) for flexural properties test method. Statistical analysis using ANOVA one way and two way showed that the differences of results obtained from those SW and CW fiber composite samples are significant, which confirm a very firm mechanical performance of the composites through flexural tests. This shows the producing a good quality of SW and CW fibre composite which maybe can use for furniture utilities.

**Keyword:** Sawdust and chip wood; Wood composites; Epoxy composites