

UNIVERSITI TEKNOLOGI MARA

**SCREW WITHDRAWAL PROPERTIES OF
PARTICLEBOARD MADE FROM
BATAI (*Paraserianthes falcataria*) SPECIES**

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ABSTRACT

Particleboard (PB) is a composite panel product consisting of cellulosic particles of various sizes that are bonded together with a synthetic resin or binder under heat and pressure. The species of Batai (*Paraserianthes Falcataria*) with diameter at breast height (DBH) 26.7 cm, 28.4 cm and 27 cm from three logs from different diameter at was converted into particles by using scale knife ring flakers. The target density was 550kg/m². The particle that was used in this process is 1.0 mm and 2.0 mm and was further dry to certain moisture content. The particleboard was produced in different particle size, resin contents; 8%, 10% and 12% with addition 1% of wax and without addition of wax which using glued with urea formaldehyde (UF). This research to evaluate the suitability of Batai as a new source to produce particleboard generally and evaluating screw withdrawal of particleboard to applied in furniture component basically. The screw withdrawal testing involved was followed by JIS standard to determine the physical properties of particleboard. Based on the result of this research it was found that the particle size and wax did not influences of the screw withdrawal strength but higher the resin content was effect in the strength of screw withdrawal on the board properties. Based on the statistical analyst particle size and wax addition did not significantly affect screw withdrawal properties of Batai species.