

BENDING PROPERTIES OF MAHANG GAJAH (*Macaranga gigantea*) BY USING DESTRUCTIVE AND NON-DESTRUCTIVE TESTING

NUR AINI BINTI ZUL BAKRI

This Final Year Project Report Submitted in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science (Hons.) Furniture Technology in the Faculty of Applied Sciences Universiti Teknologi MARA

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CANDIDATE'S DECLARATION

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Signature of Candidate



.....

Name of candidates

Nur Aini Bt Zul Bakri

Candidate's ID No

2014894312

Programme

Furniture Technology

Faculty

Faculty of Applied Sciences

Thesis title

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Date

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ABSTRACT

BENDING PROPERTIES OF “MAHANG GAJAH” (*Macaranga gigantea*) BY USING DESTRUCTIVE AND NON-DESTRUCTIVE TESTING

Bending properties is part of mechanical properties that determines the strength properties of wood. It is an important property that must be identified before wood was processed into furniture. In this study, Mahang Gajah (*Macaranga gigantea*) is used, as it is one of fast growing species. It had been divided into middle and bottom portions. Then, two types of bending test were applied, which is destructive testing and non-destructive testing. From this study, it shows that there is no significant different for both types of bending test (destructive and non-destructive) when using samples from different portions. The results also show that non-destructive testing gave inaccurate results if compared to destructive testing. It can be concluded that middle and bottom portions had slightly similar bending properties due to their similarity in terms of density. It is also proven that non-destructive testing is not suitable to measure bending properties of wood.

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