

**IMPROVEMENT OF FLEXURAL PROPERTIES AND DIMENSIONAL STABILITY  
OF RICE HUSK PARTICLEBOARD USING WOOD STRAND FROM (*Azadirachta  
excelsa*) IN FACE LAYER**

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## CANDIDATE'S DECLARATION

I declare that the work in this thesis was carried out in accordance with regulation of University Teknologi MARA. It was original and the result done by my work, unless otherwise indicated or acknowledged as a referenced work. This thesis has not been submitted to other academic institution or non-academic institution for any other degree or qualification.

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## ABSTRACT

### **Improvement of Flexural Properties and Dimensional Stability of Rice Husk Particleboard Using Wood Strand from *Azadirachta excelsa* in Face Layer**

Improvement of flexural properties and dimensional stability of rice husk particleboard is targeted in this study. Five ratios of *Azadirachta excelsa* (0, 10, 20, 30 and 40%) at face layer were tested. Further work was done with 40% *Azadirachta excelsa* content with random and aligned arrangement. The results showed significant ( $p \leq 0.05$ ) improvement in flexural strength (MOR and MOE) as the face layer percentage increases. The dimensional stability (water absorption and thickness swelling) with 40% give the best performance. Arrangement of strength has no significant effect. Overall there is potential to improve the flexural and dimensional stability with variation of strands at face layer.

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