# PREDICTION OF ULTRASONIC PULSE VELOCITY (UPV) ASSESSMENT ON DRIED OIL PALM LUMBER QUALITY

MOHAMAD HAZBULLAH BIN MAT AIL

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## CANDIDATE'S DECLARATION

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Candidate's signature: 

| | |
|---|---|
| Name | : Mohamad Hazbullah Bin Mat Ail |
| Student ID | : 2014475694 |
| Program | : Degree Bachelor of Science (Hons.) Furniture Technology |
| Faculty | : Faculty of Applied Sciences |
| Thesis Title | : Prediction of Ultrasonic Pulse Velocity (UPV) Assessment on Dried Oil Palm Lumber Quality |
| Date | : 25 July 2016 |

## ABSTRACT

### PREDICTION OF ULTRASONIC PULSE VELOCITY (UPV) ASSESSMENT ON DRIED OIL PALM LUMBER QUALITY

This thesis discusses the capabilities of Ultrasonic Pulse Velocity (UPV) for detecting quality on an oil palm lumber. Ultrasonic Pulse Velocity (UPV) is usually used in the field where researchers study the cavity of cement after completion of any construction. This method has been applied on the surface of the oil palm lumber. Wood defect are caused of quality by cavities in the wood surface that cannot be observed by only a bare eyes. Therefore, this method is used to record data on wood defects, these methods are still within the trial study whether it can be used to detect defects in the wood. Besides, this thesis also discusses about wood preservatives regarding to the ability of ethanol to reduce and speed up the drying process of oil palm lumber. In conclusion, it is proved that the UPV machine can be used on oil palm lumber. In addition, the treatment method using ethanol can be used to treat the oil palm lumber to reduce the defects in the oil palm lumber. Finally, the outer layer is lower defects compared with inner layers in oil palm lumber.

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