

**PHYSICAL AND MECHANICAL PROPERTIES OF NINE YEARS  
OLD KELEMPAYAN**

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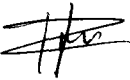
**JULY 2019**

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## ABSTRACT

### PHYSICAL AND MECHANICAL PROPERTIES OF NINE YEARS OLD KELEMPAYAN

Kelempayan or its scientific name *Neolamarckia cadamba* is a species that grows in South and Southeast Asia. Kelempayan is categorized under light hardwood category and has light with creamy yellow colour in Malaysia. Kelempayan is also put under strength group D. Nine years old kelempayan has been harvested from forest plantation in Mantin, Negeri Sembilan. The timbers are labeled into four portions from bottom (at diameter breast height) to top namely a, b, c and d. Each portion was cut into four directions which are west, east, south and north. Both physical and mechanical test was carried out by using samples from every portion in all direction and at both air dried and oven dried condition. The result of the study has proven that timber at bottom portion is more superior in terms of physical and mechanical properties. Furthermore, oven dried kelempayan has greater mechanical properties than air dried kelempayan. Although the difference between portions at first (a) portion to the second (b) portion or third (c) portion might not be significant but there is significant difference between the first (a) portion and the last (d) portion. Based on the study conducted, nine years old kelempayan is suitable to be used as substitute raw materials for furniture components. However, it is recommended that more study with broader scope should be conducted on nine years old kelempayan.