

**EFFECT OF PORTION AND OVEN DRY EXPOSURE TOWARDS
SURFACE ROUGHNESS AND BENDING STRENGTH OF
*DENDROCALAMUS ASPER***

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ABSTRACT

Effect of Portion and Oven Dry Exposure Toward Surface Roughness and Bending Strength of *Dendrocalamus asper*

In recent years, the quality of wood from natural forest has been declining due to the increasing demand of high quality wood for various uses. Therefore, wood-based industries must find alternative sources with highly potential to be great renewable sources. Bamboo tree is currently appear to be an alternative sources for substitute .The usage of non-wood based material such as bamboo in furniture manufacturing becomes more significant because of the lightweight, corrosion resistance and high strength characteristics. Nowadays, researchers have studied that bamboo strips is suitable materials to make furniture components due to low cost, new alternative for strengthening and for repairing structural member. This study has been used culms of Buluh Betong or *Dendrocalamus asper* as the strip. This study focuses on surface roughness and bending strength properties of *D. asper*'s strip. The *D. asper*'s strip from three portions, which is bottom, middle and top, was divided into different duration of oven dry exposure which is control condition, 24 hours, 48 hours and 72 hours. This test was conducted at laboratory testing in Wood Technology Workshop, Faculty of Applied Science, UiTM Pahang. It is to determine the surface roughness properties, Modulus of Elasticity and Flexural Strength. The highest flexural strength Modulus of Elasticity and maximum load were 285.92 MPa, 23,590.36 MPa, and 2,808.30 N respectively. Meanwhile, *D. asper*'s strips from bottom portion possess the smoother surface. The research done in this study has proven the ability successfully of *D. asper*'s strip with different treatment and the effect of portion. Thus, the longer the duration of oven dry treatment, the higher will be the bending strength of the *D. asper*'s strip. However, there was weak relationship between the surface roughness and bending strength of *D. asper*'s strip. Overall, such findings lead to the conclusion that bamboo sources especially the *D. asper* can serve as potential alternative material for furniture industry.