

Physical and mechanical characterisation of selected Malaysian bamboo species

ABSTRACT

With an estimation of 587 million culms of bamboo available in Malaysia, the potential as raw material is great. Bamboo is one of the fastest growing and highest yielding renewable natural resource. Due to the higher distinctions in physical and mechanical properties among species, age, and bamboo portion, a study on five common Malaysian bamboos was conducted. Three-year old bamboo culms were selected and tested. Results showed that the physical and mechanical characteristics were significantly determined for bamboo species and positions. Vertically, moisture content decreased with height while its specific gravity increased. Bending strength showed significant increase from bottom to top of bamboo culms, whereas compression parallel to grain was opposite.

Keyword: Bamboo; Physical properties; Mechanical properties; Bamboo portion.