UNIVERSITI TEKNOLOGI MARA

STRENGTH PROPERTIES OF T-SHAPED JOINT MEMBERS USING KELEMPAYAN WOOD

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ABSTRACT

The T-shaped joint members commonly in furniture component structure such as rail and stretcher on chair or table leg. In this study, the jointing system that use on T-shaped joint members were dowel joint, mortise and tenon joint, and JCBC screw with cross dowel joint. The main objective of this study was to determine the strength properties of T-shaped joint members using each jointing system. The testing method of study the strength properties were tensile and compression tests. The study consist of two phase's investigation: i) to study strength properties of T-shaped joint members from kelempayan; and ii) to compare the strength properties of jointing system using dowel, mortise and tenon, and JCBC screw with cross dowel joints. The average moisture content of wood material used for the preparation of test sample was below 12%. The results were analyzed using analysis of variance (ANOVA). The results of the tensile tests and compression test show the significant effect. It can be concluded that the mortise and tenon joints offered the best performances and high strength properties compare to dowel joint and JCBC screw with cross dowel joint.