

STRENGTH OF FINGER JOINT FROM KARAS AND LUDAI SPECIES

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ABSTRACT

STRENGTH OF FINGER JOINT FROM KARAS AND LUDAI SPECIES

Finger jointing is a method to create long lengths of lumber from short pieces. Sources of short pieces can be mill ends or pieces cut from low grade lumber. Jointing system are the overcome steps that get into action by the manufacturing industry especially the furniture manufacturer and building construction. The aim of this study is to present results showing the comparative performance of the two different finger orientations and two different species. The main objectives of the study is to determine strength properties of different finger orientation and different species using Karas (*Aquilaria Malaccensis*) and Ludai (*Sapium Baccatum*) strips either this finger specimen and species are suitable for jointing application. The average moisture content of wood materials used for the preparation of test samples was determined as 12% according to TS 2471 (1976): Determination of moisture content for physical and mechanical tests. Samples with 12% average moisture content with dimensions of 320 x 20 x 20 mm are cut according to the procedure of BS EN 204 about Non-structural adhesives for joining of wood and derived timber products. The setup is to determine the strength properties of joint using four points bending test method. The purpose of the test is to determine the Modulus of Rapture (MOR) and Modulus of Elasticity (MOE) of the joint specimen. The load is applied at the centre of the span at the constant of 0.26 in/min (BS 373:1957). From this study, vertical Ludai orientation has the highest MOR value with 31.21 MPa and the lowest MOR value for MOR was from horizontal orientation of Karas with 22.16 MPa. The highest MOE value in this study was from the vertical orientation of Ludai with 16688.94 MPa and the lowest value of MOE was from horizontal orientation of Karas with 9335.45 MPa. As a result it was advised that the serviceability of finger joint production depends on the species use and the orientation of finger joint and also the assembly preparation of the finger joint.

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