PREFABRICATED WOOD I-JOIST FROM *Araucaria hunsteinii* FLANGES AND ORIENTED STRAND BOARD (OSB) WEB

By

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Final Project Submitted in Fulfillment of the Requirement for the Diploma in Wood Industries in the Faculty of Applied Science Universiti Teknologi Mara.

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This project was carried out with the objective of obtaining the strength properties of I-joist made from oriented strand board (OSB) web with L-butt joint and solid araucaria (*araucaria hunsteinii*) wood flanges.

The result shows that sample 1 (AO1) had the lowest value of MOR with 17.5 MPa and the lowest value of MOE was sample 2 (AO2) with 9646 MPa. The highest value of MOE and MOR was by sample 3 (AO3) with 13500 MPa and 24.8 MPa. The location of I-joist failure was at the web joint. Failures happen at the gap joint because of the glue were not spread evenly.

Araucaria hunsteinii is a soft wood species and it was use to make part of I-joist flanges. This study proved that *Araucaria hunsteinii* can be used as flanges in I-joist system.. This is because *Araucaria hunsteinii* and OSB can perform as a system of I-joist.This study try to promote *Araucaria hunsteinii* in building structure system.