NAIL WITHDRAWAL PROPERTIES ON HYBRID LAMINATION BOARD MADE FROM SESENDOK (*ENDOSPERMUM DIADENUM*) AND OIL PALM TRUNK (*ELAEIS GUINEENSIS*)

By

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This Project Report Submitted in Partial of the Requirements for the Degree of Bachelor of Science (Hons.) Furniture Technology in the Faculty of Applied Sciences
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JANUARY 2016

CANDIDATE'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledged as reference work. This thesis has not been submitted to any other academic institution or non-academic institution for any other degree or qualification.

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ABSTRACT

NAIL WITHDRAWAL PROPERTIES ON HYBRID LAMINATION BOARD MADE FROM SESENDOK (*ENDOSPERMUM DIADENUM*) AND OIL PALM TRUNK (*ELAEIS GUINEENSIS*)

In this study, withdrawal tests were carried out to determine the holding strength of nails on hybrid lamination board from wood and non-wood species. Sesendok (*Endospermum diadenum*) and Oil palm trunk (*Elais guineensis*) were laminated using polyvinyl acetate (PVAc) glue. Sixty distinct samples were included in the study: thirty samples made of three layers, and thirty distinct samples made of five layers were tested and data were determined and compared. The dimensions of the samples were (50 x 50 x100) mm was prepared at ambient room temperature. Carbon metal type nails of sizes diameter and length at 2.9 x 69mm screw shank nail, 2.9 x 65mm ring shank nail, and 2.9 x 64mm common nail were used in the study. The data of withdrawal resistance of three types of nails were represented in maximum load, N. The nails were installed according to ASTM-D 1761 (2012) standards. Results show that the maximum nail withdrawal resistance value was found in screw shank nail for both three and five layer samples, followed by ring shank nails and then smooth shank nails. Between three types of nails, they are highly significant different strength. But, there were no significances different between three and five layers of samples.

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