

UNIVERSITI TEKNOLOGI MARA

**PROPERTIES OF LAMINATED VENEER LUMBER
FROM OIL PALM TRUNK BY USING DIFFERENT
ADHESIVE**

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ABSTRACT

Laminated veneer lumber (LVL) is an engineered wood product manufactured from veneers that are rotary peeled, dried and laminated together with parallel oriented grains under heat and pressure with a waterproof adhesive. This study was undertaken is to determine the properties of laminated veneer lumber from oil palm trunk and to evaluate the properties of laminated veneer lumber from oil palm trunk veneer by using different adhesive and spread level. With that, this study use the oil palm trunk (OPT) because to reduce the wastage from oil palm biomass and overcome shortage of the wood supply. Experimental LVL panel from OPT veneers bonded with Polyvinyl acetate (PVAc) and Phenol Formaldehyde (PF) were produced with two adhesive spread levels; 180g/m^2 and 360g/m^2 for single glue line. The results show the tensile shear strength was higher in panel bonded with PF compared to PVAc. The panels glued with PF using 360g/m^2 spread level showed better in MOR and MOE compare with other. Density of panel manufactured using PF using 180g/m^2 was higher compare with panel bonded with PF using 360g/m^2 and PVAc using 180 and 360g/m^2 spread level. Water absorption and thickness swelling rate were slightly lower for LVL manufactured using PVAc compare PF.