

**FAILURE OF ADHESIVE OR COHESIVE WITHIN OIL PALM
VENEER PLYWOOD BONDED WITH SELECTED RESIN**

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ABSTRACT

FAILURE OF ADHESIVE OR COHESIVE WITHIN OIL PALM VENEER PLYWOOD BONDED WITH SELECTED RESIN

This study investigated the bond formation of adhesive on to the plywood from oil palm trunk (OPT) veneer. Adhesive used for the study were Urea Formaldehyde (UF), Phenol Formaldehyde (PF) and Polyvinyl Acetate (PVAc). The adhesive spread value was determined through the thickness of veneer. For bending strength the modulus of elasticity (MOE) and modulus of rupture (MOR) are significant at $P \leq 0.05$. PF resins have the highest MOE and MOR at 1881.17 MPa and 12.26 MPa respectively. The tensile shear shows strength $UF > PF > PVAc$. The result is highly significant at $P \leq 0.01$ and UF (0.51 MPa) passed the standard JAS 2014 requirement. Lastly wood failure shows a highly significant difference at $P \leq 0.01$, indication that covalent bonding and cohesive failure of PF and UF is stronger than PVAc (dipolar). The highest wood failure was PF with 78%.

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