

UNIVERSITI TEKNOLOGI MARA

**EFFECT OF STRAND SIZES AND RESINS ON
ORIENTED STRAND BOARD USING
KELEMPAYAN**

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ABSTRACT

Wood based panel has been used in North America since 1985 and has proven themselves in virtually millions of boats, both large and small. In this study, three different sizes of kelempayan wood strand (0.5 cm, 1.0 cm, and 2.0 cm) and different types of resin (UF and PF) were used. The mechanical and physical properties of oriented strand board (OSB) were carried out according to British standard (BS). The mechanical properties test included water absorption (WA) and thickness swelling (TS) and physical properties include internal bonding (IB), Modulus of rupture (MOR) and Modulus of elasticity (MOE). From the result, it showed that 1.0 cm strand size and phenol formaldehyde (PF) showed the higher strength followed by 2.0 cm of strand size and phenol formaldehyde (PF) resin and 0.5 cm of strand size and PF resin. Phenol formaldehyde (PF) exhibits more strength compared to urea formaldehyde (UF) due to its water resistance and better mechanical strength.

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