

Physico-mechanical properties of laminates made from Sematan bamboo and Sesenduk wood derived from Malaysia's secondary forest

ABSTRACT

A study was conducted to evaluate the performance of laminated composite made from phenolic resin-treated wood and bamboo strips. Sesenduk (*Endospermum diadenum*) wood and Sematan bamboo (*Gigantochloa scortechinii*) strips were impregnated using 30% phenol formaldehyde (PF) resin and assembled in different configurations and orientations prior to compreg nation. The assembled samples were then compressed in a hot press at 150 ± 2 °C for 60 minutes. Dimensional stability, hardness, bending, shear and compression strength of the products were assessed. The results revealed that the properties of the compreg laminates were significantly affected by the treatment variables. Laminated compreg wood had inferior mechanical properties compared to laminated compreg bamboo and bamboo/wood hybrid. However, the dimensional stability of laminated compreg wood is the best among the three types of laminates. Samples assembled parallelly possessed better properties. Mixed application of wood and bamboo had imparted respective advantages to the compreg laminates.

Keyword: *Endospermum diadenum*; *Gigantochloa scortechinii*; Phenol formaldehyde; Compreg laminates