

Properties of oil-cured cultivated *Bambusa vulgaris*

Abstract

The suitability of using an eco-friendly oil curing process was investigated on cultivated *Bambusa vulgaris* bamboo in order to prolong their service life span. *B. vulgaris* was chosen as it is a type of bamboo species that is easy to cultivate and has good physical as well as mechanical properties. Matured bamboo culms of 4 year-old from internodes 5, 6 and 7 in green and air-dried conditions were heat treated. The heat treatment process used palm oil as the heating medium at temperatures of 140, 180 and 220°C for durations of 30, 60 and 90 min. The air-dried culms exhibited overall higher physical, strength and durability properties than the green and untreated culms. The Modulus of Elasticity (MOE) values of heat treated bamboo in bending was reduced by 13 to 42% in green and by 3 to 29% in air-dried conditions. The compression strength were reduced by 18 to 33% in green and by 14 to 27% in air-dried ones. The heat treated bamboo lost from 5 to 34% of their initial weight after undergoing 12 months of ground-contact tests for both green and air-dried conditions. © 2007 Academic Journals.