

Effects of chemicals treatments on durability properties of *Gigantochloa scortichinii* strips and ply-bamboo

ABSTRACT

The aim of this study is to investigate the effect of some preservative treatment on the durability properties of bamboo (*Gigantochloa scortichinii*) strips and bamboo laminated product. The durability properties are examined by exposed the of bamboo samples to termite (*Coptotermes curvignathus*) for 4 weeks and white rot fungal (*Pycnophorous sanguineus* Wulfex Fries) for 12 weeks. The efficacy of treatments on bamboo strips and laminates against white rot and termite attacks were evaluated based on their weight loss after exposure to those biodeteriorating agents. All preservative-treated materials had resulted lower weight loss values compared to untreated and water-boiled bamboo treatment. The Water-Borne Preservatives (WBP) (5.80% weight loss) gave the best protection against termite whereas borax acid-treated (39.3%) materials had the least efficacy on protecting the strips. For the bamboo laminates, TBTO gave the best protection against termite attacks with only 8.9% of weight loss. The durability test against white rot fungal show that all preservative increased the resistance of bamboo strips and laminates. TBTO was found to be the best preservative to protect both bamboos strips (10.7% weight loss) and laminates (9.71% weight loss). Boiling in water for 30 minutes had decreased the resistance of the strips against white rot with the weight loss value for this strip was 21.8 while 22.4% for the laminates.