

Strength and Durability of Bamboo Treated Through an Oil-curing Process

ABSTRACT

Investigations on the strength and performance of an oil-cured bamboo *Gigantochloa scortechinii* in a 12 months ground contact tests show that the bamboo experienced some reduction in their strength properties and greatly enhanced the durability against biodegradation agents. The MoE value in bending strength were reduced by 13 to 42% in green and 3 to 29% in air-dried condition. In the MoR modulus in the bending strength, the value were reduced by 10 to 35% in green and 2 to 31% in air-dried condition. The compression strength were reduced by 18 to 33% in green and 14 to 27% in air-dried condition. The shear strength were reduced in the ranged between 16 to 58% in green and 14 to 54% in air-dried samples. An overall decreased in weight loss also occurred of oil-cured samples after 12 months of ground contact tests. Green condition sample recorded a decreased in weight loss between 4 to 33% and 4 to 33% in air-dried samples. Control samples that are composed of untreated bamboo and rubberwood experienced weight loss of about 48 and 40%, respectively. An oil-cured bamboo performed much better compared to those of untreated in the ground contact tests. The weight loss in term of percentage after 12 months tests varies from 4 to 34% with samples oil-cured at higher temperature and longer duration losing less weight.