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Section 1 Biology

Resistance of two commercial cement-bonded rubberwood particle composites to decay and termites

by

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Abstract

Two types of cement-bonded rubberwood (*Hevea brasiliensis*) particle composites (tradenames: Cemboard™ and Primaflex™ in Malaysia), were evaluated for termite resistance (prevalent termite: *Coptotermes curvignathus*) in the field, and decay resistance (test white rot fungi: *Schizophyllum commune* and *Pycnoporus sanguineus*; test brown rot fungus: *Gloeophyllum trabeum*; test soft rot fungi: *Phialophora fastigiata* and compost-*Chaetomium globosum* mixed inocula) in the laboratory. Three termite- or decay- susceptible wood materials [rubberwood, kempas (*Koompasia malaccensis*) and radiata pine (*Pinus radiata*) pressed pulp] were also included for comparison. Both types of wood-cement composites were consistently shown to be immune to decay fungi and subterranean termites, recording also much lower final moisture contents of the composites compared with rubberwood, kempas and radiata pine pressed pulp. These wood-cement composites are therefore suitable for use in a severe decay and termite hazard.

KEY WORDS: Cement-bonded particleboard, *Hevea brasiliensis*, termite resistance, decay resistance, wood durability

Introduction

Cement-bonded particleboard (CBP) is a wood-based panel manufactured under controlled pressure and temperature conditions from a combination of chemically treated wood particles and Portland (or other equivalent) cement of ratios varying from about 7:3 to 2:8 proportions and board thicknesses. The wood particle serves as reinforced material while cement acts as an inorganic binder.

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