Irvan Panogari Sibarani. Karakteristik Papan Semen dari Tiga Jenis Bambu dengan Penambahan Katalis Magnesium Klorida ($MgCl_2$). Dibimbing oleh Evalina Herawati dan Tito Sucipto

ABSTRAK

Tujuan penelitian adalah mengevaluasi kualitas papan semen berupa sifat fisis dan mekanis papan semen serta ketahanannya terhadap serangan rayap. Papan dibuat dengan ukuran 25 cm x 25 cm x 1 cm dan kerapatan 1,2 g/cm^3 dari tiga kombinasi jenis bambu (bambu tali, bambu betung, bambu hitam), dan kadar semen (2,50%, 2,75%, 3,00%) dengan penambahan katalis magnesium klorida. Sifat fisis papan semen yang memenuhi standar JIS A 5417-1992 adalah kadar air dan pengembangan tebal sedangkan kerapatan yang memenuhi standar JIS A 5417-1992 hanya perlakuan kombinasi bambu hitam dengan kadar semen 2,50%, 2,75% dan 3,00% dan kombinasi bambu tali dengan kadar semen 3,00%. Pengujian sifat mekanis papan semen yang dihasilkan tidak memenuhi standar JIS A 5417-1992 untuk nilai MOR dan MOE dan untuk *internal bond* dan kuat pegang sekrup tidak dipersyaratkan dalam standar JIS A 5471-1992. Papan semen memiliki keawetan yang cukup tinggi terhadap serangan rayap dengan ketahanan seluruh papan sangat tahan dan pada kelas I berdasarkan standar SNI 01-7207-2006. Dari hasil penelitian papan semen yang terbaik dihasilkan dari bambu hitam dengan kombinasi kadar semen 3,00% dilihat dari sifat fisis, sifat mekanis dan ketahanan terhadap serangan rayap seluruh papan semen yang dihasilkan.

Kata kunci: papan semen, bambu, kadar semen, sifat fisis dan mekanis, keawetan

Irvan Panogari Sibarani. *Characteristics of Cement Board made from Three Types of Bamboo with Magnesium Chloride ($MgCl_2$) Catalyst Addition. Supervised by* Evalina Herawati *and* Tito Sucipto

ABSTRACT

The research objective was to evaluate the quality of cement board about physical and mechanical properties of cement board and its resistance to termite attack. Boards were made with size 25 cm x 25 cm x 1 cm and 1,2 g/cm^3 density variations on a combination of three bamboo species (Tali bamboo, Betung bamboo, Hitam bamboo), and levels of cement (2,50%, 2,75%, 3,00%) with the addition of magnesium chloride catalyst. Physical properties of cement board completed JIS A 5417-1992 was the moisture content and the thickness swelling, while density completed JIS A 5417-1992 just for Hitam Bamboo combination treatment with level of cements 2,50%, 2,75% and 3,00%, and Tali Bamboo combination with level of cements 3,00%. The result of mechanics properties cement board did not complete JIS A 5417-1992 for MOR and MOE value and for internal bond and screw holding strength were not regulationed in JIS A 5471-1992. Cement board had an enough high durability that resistance to termite attack by the entire board was highly resistant and the first class based on SNI 01-7207-2006 standard. From the results of research, the best cement boards are produced from Hitam Bamboo with cements level combination 3.00% based on physical properties, mechanic properties and that resistance to termite attack all of the cement board resulted.

Key words : cement board, bamboo, cement content, physical and mechanical properties, durability