PENGARUH PERBEDAAN PERSENTASE AMPAS PENGOLAHAN GAMBIR DAN SERAT TANDAN KOSONG KELAPA SAWIT TERHADAP SIFAT PAPAN PARTIKEL TANPA PEREKAT

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Pengaruh Perbedaan Persentase Ampas Pengolahan Gambir dan Serat Tandan Kosong Kelapa Sawit Terhadap Sifat Papan Partikel Tanpa Perekat

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ABSTRAK

Tujuan utama dari penelitian ini adalah untuk mendapatkan perbandingan terbaik dari persentase Tandan Kosong Kelapa Sawit (TKKS) dan ampas pengolahan gambir dalam menghasilkan papan partikel berdasarkan sifat fisik dan mekanis. TKKS menjadi bahan utama pembuatan papan partikel karena kandungan selulosa yang tinggi. Dalam pembuatan papan partikel ditambahkan ampas pengolahan gambir sebagai agent perekat. Metodologi penelitian yang digunakan adalah Rancangan Acak Lengkap dengan lima perlakuan dan tiga kali ulangan. Perbandingan ampas pengolahan gambir dan serat TKKS dalam penelitian ini adalah: A (0%: 100%), B (5%: 95%), C (10%: 90%), D (15% : 85%), Dan E (20%: 80). Data yang diperoleh dianalisis dengan menggunakan ANOVA, jika hasilnya berbeda nyata, dilakukan uji DNMRT dengan tingkat signifikan 5%. Pengujian fisik meliputi: uji kerapatan, uji kadar air, uji daya serap air dan uji pengemangan tebal. Pengujian mekanis meliputi: uji MOR, uji keteguhan tekan sejajar permukaan dan uji keteguhan rekat internal. Berdasarkan hasil penelitian perlakuan terbaik diperoleh pada perlakuan E. Karakteristik fisik papan adalah kerapatan: 0,77 g/cm3, kadar air: 12,60%, daya serap air: 165,78%, dan pengembangan tebal: 63,87%. Karakteristik mekanik papan meliputi MOR: 53,13 kg / cm^2, keteguhan tekan sejajar permukaan: 17,68 kg/cm^2 dan keteguhan rekat internal: 1,56 kg/cm^2.

Kata kunci: Papan Partikel, Ampas Pengolahan Gambir, TKKS

The Effect of Percentage Differences in the Waste of Gambier and the Empty Bunch Fibers of Oil Palm Toward the Binderless Particle Board

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ABSTRACT

The main objective of this research was to obtain the best level of comparison of the empty palm oil bunches and gambier waste in generating particle board based on the physical and mechanical properties. Oil palm empty bunches may be the main ingredients in the manufacture of particle board because of its high cellulose content. In the manufacture of particle board added gambier waste as an adhesive agent. The research methodology used a complete randomized design with five treatments and three replications. The comparison of the gambier waste and the empty bunch fibers of palm oil in this study were: A (0%: 100%), B (5%: 95%), C (10%: 90%), D (15%: 85%), And E (20%: 80). The data obtained by using ANOVA, if the result is significantly different, it is done by Duncan's New Multiple Range Test at 5% real level. Physical testing includes: density test, water content test, water absorption test and thickness development test. Mechanical testing includes: modulus of rupture test, row surface dependability test and internal bonding test. Based on research result of best treatment obtained by treatment E. The physical characteristic of the board is density: 0.77 g/cm^3, water content: 12.60 %, water absorption: 165.78 %, and development off thickeness: 63,87 %. Mechanical characteristic of the board include modulus of rupture: 53.13 kg/cm^2, row surface dependability: 17.68 kg/cm^2, and internal bonding: 1.56 kg/cm^2.

Keywords: Particle Board, Waste Gambier, Coconut Palm Oil Kernel Bunches