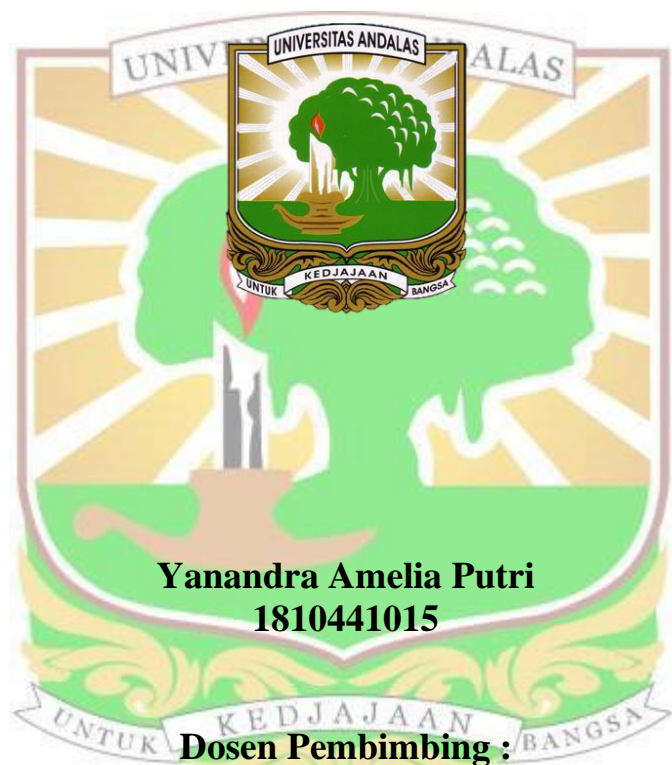


**KARAKTERISTIK PAPAN PARTIKEL DARI KULIT KAKAO
DAN SERAT PINANG DENGAN VARIASI *POLYMERIC
METHYLENE DIPHENYL DIISOCYANATE***

SKRIPSI



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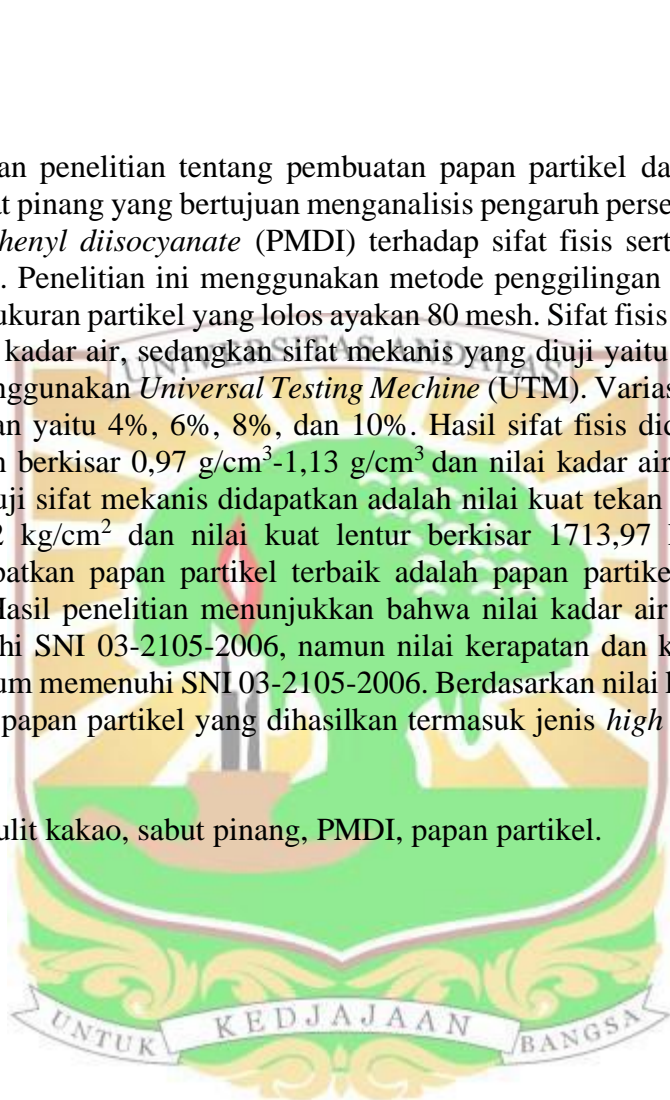
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KARAKTERISTIK PAPAN PARTIKEL DARI KULIT KAKAO DAN SERAT PINANG DENGAN VARIASI *POLYMERIC METHYLENE DIPHENYL DIISOCYANATE*

ABSTRAK

Telah dilakukan penelitian tentang pembuatan papan partikel dari partikel kulit kakao dan serat pinang yang bertujuan menganalisis pengaruh persentase *polymeric methylene diphenyl diisocyanate* (PMDI) terhadap sifat fisis serta sifat mekanis papan partikel. Penelitian ini menggunakan metode penggilingan *ball mill*, untuk mendapatkan ukuran partikel yang lolos ayakan 80 mesh. Sifat fisis yang diuji yaitu kerapatan dan kadar air, sedangkan sifat mekanis yang diuji yaitu kuat lentur dan kuat tekan menggunakan *Universal Testing Machine* (UTM). Variasi perekat PMDI yang digunakan yaitu 4%, 6%, 8%, dan 10%. Hasil sifat fisis didapatkan adalah nilai kerapatan berkisar 0,97 g/cm³-1,13 g/cm³ dan nilai kadar air berkisar 7,3%-9,11%. Hasil uji sifat mekanis didapatkan adalah nilai kuat tekan berkisar 216,63 kg/cm²-285,02 kg/cm² dan nilai kuat lentur berkisar 1713,97 kg/cm²-2235,23 kg/cm². Didapatkan papan partikel terbaik adalah papan partikel dengan kadar perekat 8%. Hasil penelitian menunjukkan bahwa nilai kadar air dan kuat tekan telah memenuhi SNI 03-2105-2006, namun nilai kerapatan dan kuat lentur yang dihasilkan belum memenuhi SNI 03-2105-2006. Berdasarkan nilai kerapatan papan partikel maka papan partikel yang dihasilkan termasuk jenis *high density particle board*.

Kata Kunci: kulit kakao, sabut pinang, PMDI, papan partikel.



CHARACTERISTICS OF PARTICLE BOARDS FROM COCOA SHELL AND ARECA FIBER WITH VARIATIONS OF POLYMERIC METHYLENE DIPHENYL DIISOCYANATE

ABSTRACT

Research has been carried out on the manufacture of board particles from cocoa shell particles and areca fiber with the aim of analyzing the effect of the percentage of methylene diphenyl diisocyanate (PMDI) polymer on the physical and mechanical properties of board particles. This research uses the ball mill grinding method to obtain the particle size that passes through an 80 mesh sieve. The physical properties tested were density and water content, while the mechanical properties tested were flexural strength and compressive strength using the Universal Testing Machine (UTM). The variations of PMDI adhesive used are 4%, 6%, 8% and 10%. The results of the physical properties obtained were density values ranging from 0.97 g/cm^3 to 1.13 g/cm^3 and air content values ranging from 7.3% to 9.11%. The mechanical properties test results obtained were compressive strength values ranging from 216.63 kg/cm^2 to 285.02 kg/cm^2 and endurance strength values ranging from 1713.97 kg/cm^2 to 2235.23 kg/cm^2 . It was found that the best particle board was particle board with an adhesive content of 8%. The research results showed that the water content and compressive strength values met SNI 03-2105-2006, but the resulting density and flexural strength values did not meet SNI 03-2105-2006. Based on the density value of the particle board, the particle board produced is a type of high density particle board.

Keywords: cocoa shell, areca fiber, PMDI, particle board

