PENGARUH PRESENTASE MASSA PARTIKEL KAYU DAN SERAT LIDAH MERTUA PADA *CORE* TERHADAP SIFAT FISIS DAN MEKANIS PAPAN PARTIKEL PEREKAT RESIN EPOKSI

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ABSTRAK

Penelitian tentang pengaruh presentase massa partikel kayu dan serat lidah mertua pada *core* (inti) terhadap sifat fisis dan mekanis papan partikel perekat resin epoksi telah dilakukan. Sifat fisis yang diuji meliputi kerapatan, kadar air, dan daya serap air sedangkan pengujian sifat mekanis meliputi kuat lentur, kuat tekan dan kuat tekan sejajar. Papan partikel ini dibuat dengan memvariasikan komposisi partikel serbuk kayu dan lidah mertua yang lolos ayakan 50 mesh sebagai *filler* pada *core* dengan tiga variasi komposisi yaitu 0%:30%, 15%:15% dan 30%:0% sedangkan kadar resin epoksi 10%. Bagian lapis muka papan dibuat dengan komposisi partikel serbuk kayu yang lolos ayakan 100 mesh sebesar 20% dan kadar resin epoksi 10%. Hasil uji sifat fisis menunjukan bahwa papan partikel komposit memenuhi ketentuan SNI 03-2105-2006 berdasarkan kadar air dan daya serap air, namun memiliki kerapatan yang melewati batas standar SNI 03-2105-2006. Selain itu, uji sifat mekanis yaitu kuat tekan sejajar memenuhi standar SNI 03-2105-2006, sedangkan pada kuat lentur (MOE) dan kuat tekan (MOR) tidak memenuhi standar SNI 03-2105-2006. Variasi massa yang terbaik dalam pembuatan papan partikel yaitu dengan menggunakan variasi massa *core* antara serbuk kayu (30%) dan serat lidah mertua (0%).

Kata kunci: papan partikel, resin epoksi, serat lidah mertua, dan serbuk kayu.

EFFECT OF MASS PERCENTAGE OF THE WOOD PARTICLE AND SANSEVIERIA FIBER IN THE CORE TO PHYSICAL AND MECHANICAL CHARACTERISTICS OF PARTICLE BOARD USING ADHESIVE EPOXY RESIN

ABSTRACT

The study about the effect of mass percentage of wood particles and the sansevieria fiber in the cores (core) to the physical and mechanical characteristics of particle boards using adesive epoxy resin has been carried out. The physical characteristics tested include density, moisture content, and water absorption while mechanical characteristics testing includes flexural strength, compressive strength and parallel compressive strength. Particle board has been made by varying the composition of wood dust particles and sansevieria that pass 50 mesh sieve as a filler on the core with three various concentrations which including of 0%:30%, 15%:15% and 30%:0% while the epoxy resin content is 10%. The faceplate is made with wood powder particle composition which passes 100 mesh sieve by 20% and epoxy resin content is 10%. The physical characteristics test results show that the composite particle board meets the requirements of SNI 03-2105-2006 based on moisture content and water absorption, but has a density that exceeds the SNI 03-2105-2006 standard limits. In addition, the mechanical characteristics test that is parallel compressive strength meets SNI 03-2105-2006 standards, while the flexural strength (MOE) and compressive strength (MOR) do not meet SNI 03-2105-2006 standards. The best mass variation in making particle board is by using core mass variation between wood particles (30%) and sansevieria (0%).

Keywords:particle board, epoxy resin, sansevieria fiber,and wood particle.