

**Pengaruh Perbedaan Persentase Ampas Pengolahan Gambir dan Partikel Kayu Surian (*Toona sureni* Merr) terhadap Sifat Fisis dan Mekanis Papan Partikel Tanpa Perekat**

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## **ABSTRAK**

Penelitian ini bertujuan untuk mengetahui pengaruh perbedaan persentase ampas pengolahan gambir dan partikel kayu surian (*Toona sureni* Merr) terhadap sifat papan partikel tanpa perekat yang dihasilkan. Rancangan percobaan yang digunakan dalam penelitian ini adalah rancangan acak lengkap dengan 5 perlakuan dan 3 ulangan, yang mana perlakuan A (90% partikel kayu surian : 10% ampas pengolahan gambir), B (80% partikel kayu surian : 20% ampas pengolahan gambir), C (70% partikel kayu surian : 30% ampas pengolahan gambir), D (60% partikel kayu surian : 40% ampas pengolahan gambir), E (50% partikel kayu surian : 50% ampas pengolahan gambir). Pengamatan sifat fisis yaitu uji Kadar Air, Kerapatan, Daya Serap Air dan Pengembangan Tebal sedangkan pengamatan sifat mekanis yang diamati antara lain yaitu Keteguhan Patah, modulus elastisitas, Keteguhan Tekan Sejajar Permukaan dan Keteguhan Rekat Internal. Hasil penelitian menunjukkan perlakuan yang optimal terdapat pada perlakuan E (50% partikel kayu surian : 50% ampas pengolahan gambir), sifat fisis yaitu kadar air 5,19%, kerapatan 0,74 g/cm<sup>3</sup>, daya serap air 82,46%, pengembangan tebal 17,57%, sifat mekanis papan yaitu keteguhan patah 106,17kg/cm<sup>2</sup>, modulus elastisitas 747,31 kg/cm<sup>2</sup> keteguhan tekan sejajar permukaan 51,38kg/cm<sup>2</sup> dan keteguhan rekat internal 2,49 kg/cm<sup>2</sup>.

**Kata Kunci:** ampas pengolahan gambir, kayu surian, papan partikel tanpa perekat, persentase

# **The Effect of Difference in Percentage of Gambier Waste and Surian Wood Particles (*Toona sureni* Merr) toward Physical and Mechanical Properties of Binderless Particle Board**

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## **ABSTRACT**

This study aimed to determine the effect of difference in percentage of gambier waste and surian wood particles (*Toona sureni* Merr) on the properties of binderless particle board. The research method used a completely randomized design method with 5 treatments and 3 replications. Which were treatment A (90 surian wood particle : 10 gambier waste), B (80 surian wood particle : 20 gambier waste), C (70 surian wood particle : 30 gambier waste), D (60 surian wood particle : 40 gambier waste), E (50 surian wood particle : 50 gambier waste). The physical properties observation water content test, Density, Water absorption, and Thickness Development, while the observation on mechanical properties are Modulus of Rapture (MOR), Modulus of Elasticity (MOE), Firmness Compressing Parallel to the surface and Firmness of internal Bonding. The result showed the optimal on the treatment E (50 surian wood particle : 50 gambier waste), physical properties is water content 5,19 %, density 0,74 g/cm<sup>3</sup>, water absorption 82,46 %, thickness development 17,57%, mehanical properties is Modulus of Rapture 106,17 kg/cm<sup>2</sup>, Modulus of Elasticity 747,31 kg/cm<sup>2</sup>, Firmness Compressing Parallel to the surface 51,38 kg/cm<sup>2</sup>, and internal bonding 2,49 kg/cm<sup>2</sup>.

**Keywords:** gambier waste, surian wood, binderless particle board, pecentage

