OPTIMASI PENCAMPURAN LIMBAH BATANG PISANG DAN JERAMI PADI SEBAGAI BAHAN DALAM PEMBUATAN PAPAN PARTIKEL DENGAN PEREKAT PP-g-MA

ABSTRAK

Telah dilakukan penelitian tentang pembuatan papan partikel dengan bahan pengisi serbuk batang pisang dan serbuk jerami padi, polipropilena dan PP-g-MA sebagai bahan perekatnya yang bertujuan untuk menganalisis sifat fisik dan mekanik papan partikel. Metode yang digunakan yaitu pengujian sifat fisik berupa pengujian kadar air dan kerapatan serta pengujian sifat mekanik berupa keteguhan lentur (MoE) dan keteguhan patah (MoR). Sifat fisik papan partikel dengan penambahan bahan pengisi yang berbeda setiap perlakuannya tidak berpengaruh nyata terhadap nilai kadar air. Kadar air rata-rata keseluruhan mencapai kurang dari 14% yang telah memenuhi SNI, setiap perlakuan tidak berpengaruh nyata terhadap nilai kerapatan, nilai kerapatan sudah memenuhi Standar Nasional Indonesia (SNI) dengan persyaratan SNI untuk kerapatan papan partikel 0,4-0,9 gr/cm^3 (low density), nilai rata-rata modulus elastisitas (MoE) yang dihasilkan memenuhi SNI untuk papan partikel min 3,06 kgf/cm^2 dan nilai rata-rata keteguhan patah (MoR) yang baik. Kesesuaian serbuk batang pisang dan serbuk jerami padi terhadap sifat fisik dan mekanik papan partikel berupa nilai kadar air, kerapatan, keteguhan lentur (MoE) dan keteguhan patah (MoR) untuk masing-masing perlakuan yang diberikan telah sesuai karena telah memenuhi Standar Nasional Indonesia (SNI).

Kata Kunci : Papan partikel, Polipropilena, PP-g-MA, Serbuk Batang Pisang, Serbuk Jerami Padi, Standar Nasional Indonesia (SNI).

OPTIMIZATION OF MIXING OF BANANA STEM WASTE AND RICE STRAW AS INGREDIENTS IN MANUFACTURING PARTICLE BOARDS WITH PP-g-MA ADHESIVE

ABSTRACT

Research has been carried out on the manufacture of particleboard with banana stem powder and rice straw powder, polypropylene and PP-g-MA as adhesive as the adhesive material, which aims to analyze the physical and mechanical properties of particleboard. The method used is testing physical properties in the form of testing water content and density as well as testing mechanical properties in the form of flexural strength (MoE) and fracture toughness (MoR). The physical properties of particleboard with the addition of different fillers for each treatment did not significantly affect the water content value. The overall average moisture content is less than 14% which has met SNI, each treatment has no significant effect on the density value, the density value has met the Indonesian National Standard (SNI) with SNI requirements for particle board density of 0.4-0.9 gr /cm3 (low density), the average value of the modulus of elasticity (MoE) produced complies with the SNI for particle board min 3.06 kgf/cm2 and the average value of fracture toughness (MoR) is good. The suitability of banana stem powder and rice straw powder to the physical and mechanical properties of particle board in the form of moisture content, density, flexural strength (MoE) and fracture toughness (MoR) for each treatment given was appropriate because it met the Indonesian National Standard (SNI).).

Keywords: *Banana Trunk Powder, Indonesian National Standard (SNI) Particleboard, Polypropylene, PP-g-MA, Rice Straw Powder.*