ANALISA SIFAT MEKANIK PAPAN PARTIKEL DARI SERAT AMPAS TEBU DENGAN RESIN POLYESTER.

Eky Praama Ridwan, Duskiardi, S.T.,M.T. dan Drs. Mulyanef, S.T.,M.Sc.

Program Studi Teknik Mesin-Fakultas Teknologi Industri-Universitas Bung Hatta Jl. Gajah Mada No.19 Olo Nanggalo Padang 25143Telp. 0751-7054257 Fax. 0751-7051341

Email : ekypratama200697@gmail.com, duskiardi@ymail.com, mulyanef@.bunghatta.ac.id

ABSTRACT

Bagasse fiber is a fibrous residue from sugarcane stalks that has undergone no extraction and is widely used as raw material for particles for composite boards. Where bagasse fiber is used as reinforcement and polyester resin and hardener as the matrix of the composite. For the formation of this composite material, the composition has been arranged, namely: 8:92, 10:90, and 12:88 with a random arrangement of Wt%. Based on the results of this study, the best average value of impact strength was at the composition of 12%: 88% at 9.6579 J / mm^2, while the lowest value was at the composition of 8%: 92% at 8.3628 J / mm^2. The best value of flexural strength is seen in the composition of 8%: 92% of 123.29555 Mpa while the lowest is 12%: 88% of 98.2 Mpa and the best tensile strength (σmax) is in the composition of 10%: 90% of 25.9965 N / mm^2 while the lowest is in the composition of 12%: 88% of 22.563 N / mm^2.

Keywords: Bagasse, Polyester, Hardener, Particleboard, Impact test, Bending test, Tensile test.

KESIMPULAN

Dari hasil pengujian, nilai harga impact ampas tebu dengan resin polyester tertinggi terdapat pada komposisi 12% serat ampas tebu : 88% resin polyester susunan acak rata-rata sebesar 9,6579 J/mm^2.

Nilai kekuatan lentur tertinggi terdapat pada komposisi 8% serat ampas tebu : 92% resin polyester susunan acak rata-rata sebesar 123,29555 Mpa.

Nilai kekuatan tarik komposit ampas tebu dengan resin polyester pada komposisi 8% serat ampas tebu : 92% resin polyester sebesar 23,0535 N/mm^2. Komposisi 10% serat ampas tebu : 90% resin polyester sebesar 25,9965 N/mm^2. Komposisi 12% serat ampas tebu : 88% resin polyester sebesar 22,563 N/mm^2.

DAFTAR PUSTAKA

Annual Book of ASTM Standards (2002). "Standard Tes Methods for Tensile Properties", USA.

Badan Pusat Statistik Sumbar. (2014). "sumbar.bps.go.id/Penanaman dan Pengolahan Tebu".

Esse, I.,(2018). "Pemanfaatan Lignin Hasil Delignifikasi Ampas Tebu sebagai Perekat Lignin Resorsinol Formaldehida (LRF)", FST Universitas Islam Negeri Alauddin Makassar.

Indra Mawardu. (2009). "Mutu Papan Partikel Dari Kayu Kelapa Sawit (KKS) Berbasis Perekat Polystyrene". Jurnal Teknik Mesin Vol. 11, No. 2.

Mikael I, Hartono, R & Sucipto, T (2014). "Kualitas Papan Partikel Dari Campuran Ampas Tebu Dan Partikel Mahoni Dengan Berbagai Variasi Kadar Perekat Phenol Formaldehida", Jurnal Kehutanan USU, 5, 1-8.

Peraturan Pemerintah Republik Indonesia Nomor 79. Tentang Kebijakan Energi Nasional. 2014

Schwart, M.M., (1984). "Composite Materials Handbook, Mc Graw-Hill Book Co" New York.

Vlack, L. H., (1995). "Ilmu dan Teknologi Bahan", terjemahan Ir. Sriati Djaprie, Jakarta : Erlangga

Walker, J.C.F (1993). "Primary Wood Processing Principles and Practice".